

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2000-134308

(43)Date of publication of application : 12.05.2000

(51)Int.Cl.

H04M 1/27

H04M 11/00

H04N 1/32

H04N 1/387

(21)Application number : 10-303079

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(22)Date of filing : 23.10.1998

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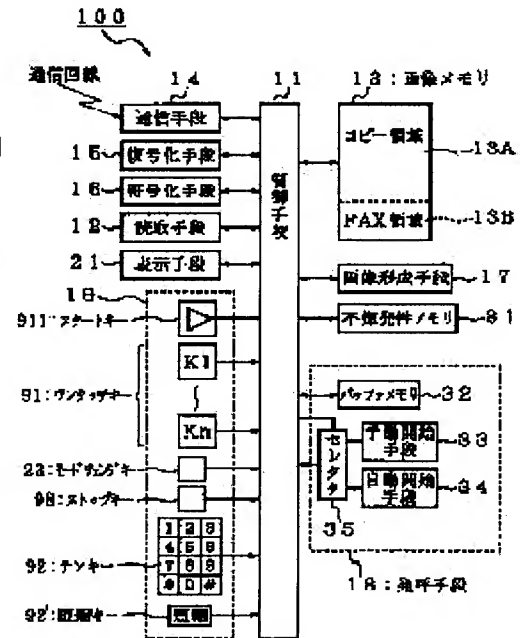
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(54) EQUIPMENT AND METHOD FOR COMMUNICATION

(57)Abstract:

PROBLEM TO BE SOLVED: To add a party number or group number to a communication program including previously registered parties or to change the contents of the communication program and to remarkably expand and improve the utilization range and value of one-action keys.

SOLUTION: A compound machine 100 is provided with a non-volatile memory 31 for previously registering the communication program including parties, a call originating means 18 for originating a call to the equipment of the desired party based on a manual or automatic call originating mode, a selector 35 for selecting any one of these manual and automatic call originating modes, and a control means 11 for controlling the selector 35 by discriminating whether or not the automatic call originating mode is to be executed based on the communication program including parties registered in the non-volatile memory 31. When a one-action key 91 is pressed and it is discriminated by the communication program the automatic call originating mode is not to be executed, control is performed so as to stop the automatic call originating mode and to execute the manual call originating mode.



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CLAIMS

[Claim(s)]

[Claim 1]Have a control means which distinguishes whether said automatic call origination mode is performed, and controls said selecting means by a communications program characterized by comprising the following, and said control means, A communication apparatus controlling to stop said automatic call origination mode and to perform said manual call origination mode by a communications program containing said partner point registered into said registration means when said automatic call origination mode was not performed and it distinguishes when said one touch key is pressed.

A communication start key.

A one touch key.

A registration means to register a communications program which contains the partner point beforehand.

Manual call origination mode which carries out a call origination start at the partner point registered into said registration means by the input of said communication start key, Or a calling means which carries out call origination to a desired partner point device at said partner point based on automatic call origination mode which carries out a call origination start after predetermined time passes since time which specified the partner point without being based on an input of a communication start key, The partner point registered into a selecting means which chooses either said manual call origination mode by said calling means, or automatic call origination mode, and said registration means.

[Claim 2]The communication apparatus according to claim 1 making as [perform / compound a communications program characterized by comprising the following, and / said manual call origination mode or automatic call origination mode].

A communications program in which said control means contains the newly registered partner point when said one touch key is pressed.

The partner point already registered into said registration means.

[Claim 3]When said registration means characterized by comprising the following, a calling means, and a selecting means are established.

A memory measure which stores temporarily a communications program in which said calling means contains the partner point.

A manual start means to output a communications program which contains the partner point from said memory measure by a communication start key input, and to generate a starting command signal for performing manual call origination mode.

After predetermined time passes since time which specified the last partner point as said memory measure without being based on an input of said communication start key, it is the partner point from said memory measure.

[Claim 4]The communication apparatus according to claim 1, wherein said selecting means chooses said manual start means or an automatic start means based on information about the partner point of said one touch key.

[Claim 5]The communication apparatus according to claim 1 when said selecting means chooses said manual start means when information about the partner point of said one touch key is not registered, and information about said partner point is registered, wherein it chooses said automatic start means.

[Claim 6]Corresponding to said one touch key, at least, information about the partner point and information which is automatic or sets up manual call origination mode are the cases where it registers with said registration means, and beforehand said selecting means, Any one communication apparatus according to claim 1 to 5 choosing said manual start means when call origination mode setting information registered corresponding to said

one touch key is manual instructions, and choosing said automatic start means when said call origination mode setting information is automatic setting.

[Claim 7]By a communications program characterized by comprising the following, distinguish whether automatic call origination mode is performed and by said communications program. A correspondence procedure making as [perform / stop said automatic call origination mode and / when automatic call origination mode was not performed and it is distinguished / manual call origination mode].

A communications program containing the partner point beforehand registered corresponding to a one touch key. Manual call origination mode which carries out a call origination start by the input of a communication start key at said partner point, Or in a correspondence procedure which communicates with a desired partner point device based on automatic call origination mode which carries out a call origination start at said partner point after predetermined time passes since time which specified the partner point without being based on an input of a communication start key, The partner point registered corresponding to said one touch key when said one touch key was pressed.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention]This invention is applied to the facsimile machine which can transmit, the composite machine provided with such a facsimile function, the duplication function, and the printer function, etc. based on the communications program containing the partner point, and relates to a suitable communication apparatus and correspondence procedure.

[0002]

[Description of the Prior Art]The case where communication apparatus, such as a facsimile machine which can transmit, are used in recent years based on the communications program containing the partner point has increased. The communication apparatus is indicated about this kind of facsimile machine by JP,3-276356,A which is technical literature.

[0003]The communication apparatus 10 by this technical literature has the navigational panel 1 shown in drawing 23. When the liquid crystal display 2 is formed in the navigational panel 1, for example, it registers a communications program, it is made as [display / order / messages, such as a transmission date, air time, a telephone number of an address and the number of addresses / later on]. If a user operates the predetermined input key 3 and the one touch key 4 and it goes to a series of messages, the telephone number of an address, etc. can be added. And an end message with "possible" communication is displayed on the liquid crystal display 2.

[0004]When changing a communications program, when changing the telephone number of the partner point, for example, The message of "whether to change an address" as shown in the liquid crystal display 2 at drawing 24 is displayed, and the key information on "1:addition", "2:deletion", and "a 3:transmitting start" is displayed in one screen. The user is constituted so that selection may be made from these three key information and an addition and deletion of the partner point may be performed.

[0005]By the way, according to the communication apparatus 10 of a conventional system, the communication key registration means which is not illustrated is formed and the telephone number of the partner point, the partner point name, and the communications program are beforehand registered corresponding to the one touch key 4 or the abbreviated key which is not illustrated (henceforth the registration information corresponding to a communications program). And when carrying out FAX transmission processing, the registration information corresponding to the communications program corresponding to the one touch key 4 only at carrying out the depression of the predetermined one touch key 4 is made as [transmit / to the buffer memory for communication-jobs setting out / from a communication key registration means]. Then, if a one-touch timer is started and predetermined time passes, it will be made as [transmit / automatically / to the communication terminal of the partner point / a manuscript picture] (automatic call origination mode).

[0006]Since the registration information corresponding to a communications program can be set up automatically at the time of FAX transmission, it becomes unnecessary to perform the telephone number input of the partner point at the time of FAX transmission, and troublesome key operation called a partner point name input one by one for a user by this composition.

[0007]

[Problem(s) to be Solved by the Invention]However, in the automatic call origination mode by the one touch key of a conventional system, in the setting operation of communication jobs, or it cannot change the contents of the registration information corresponding to the communications program transmitted to the buffer memory which is not illustrated, it is not considered so that the contents can be changed.

[0008]For this reason, the problem that it cannot transmit after having to reset up, or adding [a partner first-move item and] a communications program to the setting-out item registered into the communication key registration means and already changing the registration information corresponding to a communications program

into it arises from the beginning.

[0009]Then, this invention is what solved the technical problem mentioned above, and is ****. The purpose enables it to add a partner first-move item and the group number to the communications program containing the partner point carried out, enables it to change the contents of the communications program, and. It is providing the communication apparatus and correspondence procedure which enabled it to expand and improve substantially the use area of a one touch key, and its utility value.

[0010]

[Means for Solving the Problem]In order to solve an aforementioned problem, a communication apparatus of this invention, A communication start key, a one touch key, and a registration means to register a communications program which contains the partner point beforehand, Manual call origination mode which carries out a call origination start at the partner point registered into a registration means by the input of a communication start key, Or a calling means which carries out call origination to a desired partner point device at the partner point based on automatic call origination mode which carries out a call origination start after predetermined time passes since time which specified the partner point without being based on an input of a communication start key, By selecting means which chooses either manual call origination mode by this calling means, or automatic call origination mode, and a communications program containing the partner point registered into a registration means. When it has a control means which distinguishes whether automatic call origination mode is performed and controls a selecting means and the one touch key is pressed, a control means, When automatic call origination mode was not performed and it distinguishes, it controls by a communications program containing the partner point registered into a registration means to stop automatic call origination mode and to perform manual call origination mode.

[0011]When the one touch key is pressed according to the communication apparatus of this invention, by a communications program containing the partner point registered into a registration means. When automatic call origination mode was not performed and it is distinguished by control means, Since automatic call origination mode is stopped and manual call origination mode is performed, a partner first-move item and the group number can be added to a communications program containing the partner point beforehand registered into a registration means, or the contents of the communications program can be changed.

[0012]Therefore, since communications processing can be performed by the input of a communication start key based on a communications program which compounded a setting-out item beforehand registered into a registration means, and a newly registered setting-out item, an use area of a one touch key and its utility value can be expanded and raised substantially.

[0013]Manual call origination mode which carries out the call origination start of the correspondence procedure of this invention at the partner point by communications program containing the partner point beforehand registered corresponding to a one touch key, and the input of a communication start key, Or in a correspondence procedure which communicates with a desired partner point device based on automatic call origination mode which carries out a call origination start at the partner point after predetermined time passes since time which specified the partner point without being based on an input of a communication start key, When the one touch key is pressed, by a communications program containing the partner point registered corresponding to a one touch key. When it distinguished whether automatic call origination mode would be performed, automatic call origination mode was not performed by the communications program and it was distinguished, it was made as [perform / stop automatic call origination mode and / manual call origination mode].

[0014]When according to the correspondence procedure of this invention the one touch key is pressed, and automatic call origination mode was not performed and it is distinguished by communications program containing the partner point registered beforehand, Since automatic call origination mode is stopped and manual call origination mode is performed, a partner first-move item and the group number can be added to a communications program containing the already registered partner point, or the contents of the communications program can be changed.

[0015]Therefore, since communications processing can be performed by the input of a communication start key based on a communications program which compounded a setting-out item registered beforehand and a newly registered setting-out item, an use area of a one touch key and its utility value can be expanded and raised substantially.

[0016]

[Embodiment of the Invention]Hereafter, the communication apparatus and correspondence procedure concerning this invention are explained, referring to drawings.

[0017](1) Communication apparatus drawing 1 as an embodiment is a block diagram showing the example of composition of the composite machine 100 adapting the communication apparatus as each embodiment of this

invention.

[0018]In this embodiment, a means to distinguish whether automatic call origination mode (deadline call origination) is performed is formed by the communications program containing the partner point. When the one touch key is pressed, and automatic call origination mode was not performed and it is distinguished, Automatic call origination mode is stopped and it is made to perform manual call origination mode (manual call origination). Enable it to add a partner first-move item and the group number to the communications program containing the partner point registered beforehand, or it enables it to change the contents of the communications program, and enables it to expand and improve substantially the use area of a one touch key, and its utility value.

[0019]The composite machine 100 concerning this invention has a facsimile function which performs group communication based on the communications program containing the partner point corresponding to the alter operation of the one touch key or the abbreviated key. In this group communication, when the transmission partner point of manuscript image data is beforehand summarized per group and specifies that group among related companies, such as the head office, a branch office, or a factory, for example, the manuscript image data of the same contents as the partner point registered into that group is transmitted.

[0020]The composite machine 100 shown in drawing 1 has the control means 11. The control means 19 is connected to this control means 11. The mode change key 23, the communication start key (henceforth a start key) 911, two or more one touch keys 91 ($K_i, i=1-n$), the ten key 92 and abbreviated key 92', the stop/clear button 98 (only henceforth a stop key), etc. are formed in this control means 19. About abbreviated key 92', an abbreviated number is inputted using the ten key 92.

[0021]In this example, a duplication function or a facsimile function is used for a change at least, [in / in the mode change key 23 / the composite machine 100 concerned] The one touch key 91 is used at the time of the automatic call origination mode of the function, and the ten key 92 and abbreviated key 92' are used at the time of the manual call origination mode of the function. The stop key 98 is used when stopping a FAX job, and the start key 911 is used at the time of the recurrence call after stopping the manual call origination mode and automatic call origination mode at the time of a facsimile function.

[0022]The displaying means 21 is connected to this control means 19 via the control means 11, and it is made as [display / the facsimile screen for setting up the copy screen for setting up the operating condition of a duplication function or the operating condition of a facsimile function according to operation of the mode change key 23]. When a facsimile screen is chosen in this example, the group registration picture etc. which summarized the transmission partner point in the group are displayed. On the group registration picture, two or more communications-partner points can be registered as a "group", and a group can be specified as the partner point of a communications program.

[0023]In that case, the transmission partner point can be registered by abbreviated key 92', and the partner point registered as a group can also be registered into it with an abbreviated number. It is made as [make / from the group registration picture / with this / addition of the partner point, deletion, and correction]. Drawing 2 - drawing 14 explain the example of a display screen of the displaying means 21.

[0024]If the manuscript reading means 12 is connected to this control means 11, a duplication function and a facsimile function are chosen and these operating conditions are set up, the picture of a manuscript will be read based on that operating condition, and manuscript image data will be generated. An automatic manuscript reader (scanner) etc. are used for the manuscript reading means 12. The image memory 13 is connected to this manuscript reading means 12 via the control means 11, the copy field 13A is assigned as an object for duplication functions, and the facsimile area 13B is assigned as an object for facsimile functions.

[0025]In this copy field 13A, the manuscript image data read by the manuscript reading means 12 is mainly memorized. In this example, a mass memory area is assigned to the copy field 13A compared with the facsimile area 13B. It is good for the image memory 13 for hold-stores operation to use required DRAM etc.

[0026]The nonvolatile memory 31 as a registration means other than this image memory 13 is connected to the control means 11, and the one touch key registration table, the abbreviated key registration table, and the group registration table are prepared. It is a communications program which includes specification of the partner point corresponding to the alter operation of the one touch key 91 in a one touch key registration table, and the communications program for carrying out picture transmission is registered into a partner point device. It is a communications program which includes specification of the partner point corresponding to the alter operation of the abbreviated number in an abbreviated key registration table, and the communications program for carrying out picture transmission is registered into a partner point device.

[0027]Two or more partner points are registered into a group registration table as a group name. In this example, E²PROM (read-only memory in which the writing and elimination of electric information are possible) etc. are used for the nonvolatile memory 31.

[0028]The calling means 18 realized by software is connected to the control means 11, The manual call

origination mode which carries out a call origination start at the partner point registered into the nonvolatile memory 31 by the input of the start key 911. Or after predetermined time passes since the time which specified the last partner point without being based on the input of the start key 911, it is made as [carry out / based on the automatic call origination mode which carries out a call origination start / at the partner point / to a desired partner point device / call origination].

[0029]This calling means 18 has the selector 35 as the buffer memory 32, the manual start means 33, the automatic start means 34, and a selecting means as a memory measure. The communications program containing the partner point is stored temporarily at the buffer memory 32. Information writes in the buffer memory 32 at any time, and the memories (RAM, DRAM, etc.) which can be read are used for it. In addition, the group information etc. of two or more partner points registered on the group registration picture are stored temporarily at the buffer memory 32.

[0030]When the group name is beforehand registered into the nonvolatile memory 31 as the partner point of the communications program corresponding to the alter operation of the one touch key 91 or abbreviated key 92', in this example by the control means 11. The partner point corresponding to the group name is written in the buffer memory 32 as the partner point of a communications program.

[0031]In this manual start means 33, the communications program which contains the partner point from the buffer memory 32 by the depression of the start key 911 is outputted, and the starting command signal for performing manual call origination mode is generated. After the last partner point is specified as the buffer memory 32 in the automatic start means 34, without being based on the input of the start key 911 and predetermined time passes, the communications program which contains the partner point from the buffer memory 32 is outputted, and. The starting command signal for performing automatic call origination mode is generated.

[0032]In the selector 35 connected to this manual start means 33 and the automatic start means 34. When the one touch key 91 is pressed, it operates so that either the manual start means 33 or the automatic start means 34 may be chosen based on the information about the communications program containing the partner point registered into the nonvolatile memory 31.

[0033]In this example, it is made as [choose / the selector 35 / based on the information about the partner point of the one touch key 91 / the manual start means 33 or the automatic start means 34]. For example, when the information about the partner point of the one touch key 91 is not registered into the nonvolatile memory 31, the manual start means 33 is chosen by the selector 35, and when the information about the partner point is registered, the automatic start means 34 is chosen.

[0034]The information concerning the partner point at least corresponding to the one touch key 91 at this example, Beforehand, the information (henceforth call origination mode setting information) which is automatic or sets up manual call origination mode is a case where it registers with the nonvolatile memory 31, and the selector 35, When the call origination mode setting information registered corresponding to the one touch key 91 is manual instructions, the manual start means 33 is chosen, and when call origination mode setting information is automatic setting, it is made as [choose / the automatic start means 34].

[0035]It distinguishes whether automatic call origination mode is performed, and the selector 35 is controlled by the selector 35 which chooses either the manual call origination mode by this calling means 18, or automatic call origination mode, and the communications program containing the partner point registered into the nonvolatile memory 31.

[0036]In the control means 11 connected to this calling means 18. When the one touch key 91 is pressed, when automatic call origination mode was not performed and it distinguishes, it controls by the communications program containing the partner point registered into the nonvolatile memory 31 to stop automatic call origination mode and to perform manual call origination mode. The distinction standard in that case When the registration item of a partner first-move item is blank for example, Or when call origination mode setting information is manual call origination change information, it is a case where a user presses the stop key 98 during automatic call origination mode execution etc., and if automatic call origination mode is stopped in this case and it shifts to manual call origination mode, it will distinguish.

[0037]Therefore, above-mentioned distinction standard information is prepared beforehand, for example, the predetermined item information of the buffer memory 32 is checked after the depression of the one touch key 91, when the distinction standard information and predetermined item information which were set up beforehand are in agreement, automatic call origination mode is stopped and manual call origination mode is performed.

[0038]When are constituted in this way and the one touch key 91 is pressed, and automatic call origination mode was not performed and it is distinguished by the control means, Since automatic call origination mode is stopped and manual call origination mode is performed, a partner first-move item and the group number can be added to the communications program containing the partner point beforehand registered into the nonvolatile memory 31,

or the contents of the communications program can be changed.

[0039]Therefore, a communications program which contains the partner point already registered into the nonvolatile memory 31 when the start key 911 is operated, Since the communications program containing the newly registered partner point can be compounded and manual call origination mode or automatic call origination mode can be performed, the use area of the one touch key 91 and its utility value can be expanded and raised substantially.

[0040]A communication reservation management table is prepared for the above-mentioned buffer memory 32, at least, the attribution information (file management information) about the image data at the time of a facsimile and the image data based on the reading means 12 is created by the control means 11, and file management of this attribution information is carried out. For example, the image data inputted into the image memory 13 is managed per page, and items, such as file name No and functional classification #, start time, finish time, the transmission partner point, confidential ID, processing classification, and stages of progress, are stored in two dimensions (table state) for every file.

[0041]In connection with the advancing situation of down stream processing of image data, the attribution information is updated suitably. For example, when the example of composition of the file management information about facsimile reception is shown and functional classification is usually reception, it is updated like ending with the completion of 11:record during 01:reception and received [10:]/record. moreover -- functional classification -- 001: -- it is usually divided into items, such as communication, 010:relay reception, and 011:confidential reception.

[0042]Since the control means 11 is placed between this buffer memory 32 and the displaying means 21 is connected, the group information etc. of two or more partner points read from the buffer memory 32 are displayed by the displaying means 21. Therefore, on the group registration picture of the displaying means 21, two or more communications-partner points can be registered as a "group", or a group can be specified as the partner point of the communications program.

[0043]If the means of communication 14 is connected to the control means 11, a facsimile function is chosen and this operating condition is set up, based on that operating condition, data communications will be performed according to a predetermined communication control procedure. In this example, a manuscript send action is performed by the control means 11 with a predetermined communication procedure based on the starting command signal generated with manual call origination mode or automatic call origination mode.

[0044]For example, when alter operation into which the group name was beforehand registered as the partner point of a communications program, such as the one touch key 91 or the ten key 92, and abbreviated key 92', is made, the control means 11, A manuscript send action is performed with a predetermined communication procedure via a communication line to the communication terminal of the partner point registered into the nonvolatile memory 31 corresponding to the group name.

[0045]A network control unit (network control unit) etc. are provided, and, as for this means of communication 14, connect control, such as call origination from the composite machine 100 concerned, receipt from many and unspecified other parties, restoration, and cut treating, is performed among public networks, such as NTT. For example, ring detection is performed by this unit and the Request to Send in which the other party did call origination is received.

[0046]It is formed in this means of communication 14 by communication MODEM which is not illustrated, and at the time of reception. It restores to the modulating signal transmitted by the public network, and it changes into digital reception picture data, or at the time of transmission, manuscript image data is modulated and it is made as [change / into a modulating signal] so that it may consistent with the frequency band of a public network. The reception picture data received by the means of communication 14 is memorized in the facsimile area 13B.

[0047]The decoding means 15 is connected to this means of communication 14 via the control means 11, and reception picture data is decrypted and elongated at the time of reception. The encoding means 16 is connected to the means of communication 14 via the control means 11, and manuscript image data is compressed and coded at the time of transmission.

[0048]If the image forming means 17 is connected to this control means 11, a duplication function or a facsimile function is chosen and these operating conditions are set up, Based on the manuscript image data memorized to the copy field 13A based on the operating condition, or the reception picture data memorized in the facsimile area 13B, it is made as [form / on a recording material / a picture]. The image forming means 17 has a recording form storage device, a development counter, a photo conductor, a fixing assembly, a cartridge, etc. which are not illustrated.

[0049]Then, the navigational panel 90 used as an example of the control means 19 is explained. Drawing 2 shows the example of composition of the navigational panel 90, and also it is the figure seen [from]. The angle of one side has the roundish rectangular form, and the navigational panel 90 shown in drawing 2 is attached to the

position near this side of the manuscript reading means (not shown) 12 of the copying machine 100 concerned so that it may be easy to operate a user.

[0050]On this navigational panel 90, the mode change key 23, the displaying means 21, the one touch key 91, the stop key 98, and the start key 911 are attached at least. In this example, a liquid crystal display (LCD) is used for the displaying means 21. in addition -- flat-surface display devices, such as PDP and an electroluminescence diode, may be used for the displaying means 21 -- these displays -- the navigational panel 90 -- it is mostly arranged in the center. In order to improve a user's alter operation nature at the displaying means 21, a touch panel is attached on a display screen.

[0051]On the left-hand side of this displaying means 21, the one touch key 91 is arranged at matrix form, and it is made as [perform / special communicate modes, such as one-touch transmission and simultaneous transmissive communication,]. The mode change key 23 is formed in the right-hand side of the displaying means 21, for example, a copy screen and a facsimile screen are displayed on the displaying means 21 according to operation of the mode change key 23.

[0052]On the right-hand side of the displaying means 21, besides the mode change key 23, "1" - "0" of a number, The "*" key, The ten key 92 for telephone number inputs, such as the "#" key, the check button 93, the help button 94, the application button 95, the program button 96, the reset button 97, the stop key 98, the interruption copy button 99, the electric power switch 910, The start button 911 etc. are arranged. "1" On the arrangement area of the ten key 92 of - "3", two light emitting diode LED1 and LED2 are attached, and it is made as [perform / a display which distinguishes a file and an error].

[0053]Then, the display example of the basic waiting screen at the time of the facsimile mode in the above-mentioned composite machine 100 is explained. The telephone number "0426-60-9285" of the other party who the message of "being able to transmit" is displayed [other party], in addition an "additional" key and a number-of-cases viewing area are provided [other party], for example, wants to add, the number "four affairs" of the partner point to add, etc. are displayed on the basic waiting screen P0 shown in drawing 3.

[0054]Under these viewing areas, tags, such as a "destination table", "manuscript setting out", "setting out", a "reservation list", and "manuscript reading", are displayed on the same screen. In this example, if each tag is touched, it is made as [indicate / by gray / (reversing display)]. The tag of a "destination table" is used when changing the basic waiting screen P0 to the destination table waiting screen P1, and the tag of "manuscript setting out" is used when changing a waiting screen to an image quality selection picture. The tag of "setting out" is used when registering all items, and the tag of a "reservation list" is used at the time of a request to print out files of jobs, such as a duplication function, a facsimile function, or a printer function. The tag of "manuscript reading" is used when reading a manuscript at the time of two or more sheet transmission and mixed-loading transmission of an ADF manuscript / platen manuscript, etc.

[0055]This example shows the case where the manuscript setting screen after touching the tag of "manuscript setting out" is displayed. Tags, such as a "destination table", a "ten key", "manuscript setting out", a "reservation list", and "manuscript reading", are displayed on these lower part fields. The example of drawing 3 shows the case where the screen content of the low order hierarchy of the item of "manuscript setting out" after touching the tag of "manuscript setting out" is displayed. Tags, such as "shortening", a "redial", ["on hook"], a "tone", a "pause", "-", and "deletion", are displayed on the item screen of this "manuscript setting out."

[0056]The tag of this "shortening" is used in the telephone number of the partner point at the time of a shortening input, and the tag of a "redial" is used for retransmission of message. A tag "on hook" is used for the line capture at the time of manual transmission/manual reception, and the tag of a "tone" is used at the time of the change of a pulse/tone sound. The tag of a "pause" is used at the time of a halt and dial tone detection, and the tag of "-" is used as SEPA RE Tartar (high fin) of the dial N0 at the time of a dial entry. The tag of "deletion" is used at the time of one-character deletion of destination input data, etc.

[0057]Attribute items, such as "RDAF", "resolution", "image quality", and "concentration", are displayed on these lower part fields, and "cover + both sides", "both sides", "one side", etc. are displayed on the lower part field of "RDAF." A tag a "high definition", ["minute"], and "common" is displayed on the lower part field of "resolution." It is made as [record / in the mode corresponding to each display / on a recording form / a manuscript].

[0058]Tags, such as a "photograph", a "character photograph", and a "character", are displayed on the lower part field of "image quality", and it is made as [set / the image quality of a manuscript]. In the lower part field of "concentration", a tag, like "it is ["common"] and light" is displayed "deeply", and it is made as [record / with "automatic" and the copy density corresponding to each display / on a recording form / a manuscript].

[0059]Then, the display example of the destination table waiting screen P1 which is a low order hierarchy of the basic waiting screen P0 is explained. After the destination table waiting screen P1 shown in drawing 4 touches

the tag of the "destination table" shown in drawing 3, it is displayed on the displaying means 21. The message of "being able to transmit" is displayed on this destination table waiting screen P1, and tags, such as a "group", "shortening", a "redial", and "registration", are displayed on the screen of the low order hierarchy of a "destination table."

[0060]In this example, concerning the tag of a "group" as a group of "Konica", "Konica Hachioji" is registered into an abbreviated number "01", and "Konica Hino" is registered into "02". The case where the "Konica head office" was registered into "03" and the partner point of the name shown in drawing 4 to an abbreviated number "12", "20", "30", "40", "41", and "42" is registered hereafter is shown. A right-hand side upward arrow and downward arrow are a tag for the page rise down for searching a destination name in this group screen. If a display changes one by one so that a group's destination name may carry out page turning over above, if an upward arrow is touched, and a downward arrow is touched, the group's destination name is made as [change / a display / downward / one by one].

[0061]Then, the display example of the address registration picture P2 which is a low order hierarchy of the destination table waiting screen P1 is explained. After the address registration picture P2 shown in drawing 5 touches the tag of "registration" in the destination table waiting screen shown in drawing 4, it is displayed on the displaying means 21. The message of "address registration being carried out" and "please choose an item" is displayed on this address registration picture P2, and tags, such as "abbreviating registration/edit", "a shortening list / search", "program registration/edit", "a program list", and "group registration and edit", are displayed.

[0062]If ones of these tags is touched, It can change to the display of the abbreviated dialing addition / edit display P3 explained below, the abbreviated dialing list display screen P4, the retrieval picture P5 before a shortening destination name, the group selection picture P6, the group address registration picture P7, the registration picture P8 before a group name, the group address confirmation screen P9, etc. The tag of "returning" is prepared for the lower right side in the same screen of this address registration picture P2, and it is used when returning the address registration picture P2 to the destination table waiting screen P1.

[0063]Then, the display example of the abbreviated dialing addition / edit display P3 which is a low order hierarchy of the address registration picture P2 is explained. After the abbreviated dialing addition / edit display P3 shown in drawing 6 touch the tag of "abbreviating registration/edit" of the address registration picture P2 shown in drawing 5, it is displayed on the displaying means 21.

[0064]The message of "abbreviating registration/edit can do" is displayed on this abbreviated dialing addition / edit display P3, and "99" is displayed as the tag of "the shortening N0", and its abbreviated number. The tag of "the dial N0" is provided in these lower part fields, and the field which displays the telephone number of the partner points, such as "0426-60-9291", is prepared for the right-hand side. Tags, such as an "extension", a "tone", a "pause", "-", and "deletion", are displayed on the lower part field.

[0065]The "name" and the field which displays "Konica Corp. 2 Development Center" etc. as the example are prepared for the lower part field. "furthermore -- a lower part field -- as the tag of a "retrieval character", and its example -- it is " -- etc. -- the field to display being prepared and, "**" which is an initial of a hiragana in the lower part field -- "it is " -- " -- " and "**" -- " -- ", "**", "**", and "**" -- " -- the tag of " and "**" is prepared and the "alphanumeric" tag is prepared for the end.

[0066]If the tag of this "retrieval character" is touched, it can change to a display in the retrieval picture P5 before a shortening destination name explained below. The tag of "registration" and "returning" is prepared for the lower right side in the same screen of this abbreviated dialing addition / edit display P3, and the tag of "registration" is used when registering the telephone number of the partner point with an abbreviated number. The tag of "returning" is used when returning an abbreviated dialing addition / edit display P3 to the address registration picture P2.

[0067]Then, the display example of the abbreviated dialing list display screen P4 which are other low order hierarchies of the destination table waiting screen P1 is explained. After the abbreviated dialing list display screen P4 shown in drawing 7 touches the tag of "the shortening list / search" in the destination table waiting screen shown in drawing 4, it is displayed on the displaying means 21. The message of "a shortening list" and "please choose the shortening N0 and an item" is displayed on this abbreviated dialing list display screen P4, and the tag of "the shortening N0" and the viewing area of the "destination name" which it is going to register with that abbreviated number are prepared.

[0068]"Konica Hachioji" is registered into an abbreviated number "01" in this example, concerning "the shortening N0". The case where "Konica Hino" was registered into "02", "the Konica development G" was registered into "03", and the partner point of the name shown in drawing 7 to an abbreviated number "04", "05", and "06" is registered hereafter is shown. The abbreviated number "07" is unregistered in this example.

[0069]A right-hand side upward arrow and downward arrow are a tag for the cursor for searching a destination

name on the screen of this the "shortening NO." If an upward arrow is touched, cursor will move upward in a destination name top, and if a downward arrow is touched, it is made as [move / downward / in a destination name top / cursor]. The tag for a page rise down is provided in the lower left side besides the tag for these cursor, and it is made as [carry out / the display screen of a "destination name" / page turning over]. The tag of "edit", "deletion", and "search" is prepared next to it.

[0070]The tag of this "edit" is used at the time of correction of the contents of abbreviating registration selected with cursor, the tag of "deletion" is used at the time of deletion of the contents of abbreviating registration selected with cursor, and it is the same character as the tag of a "retrieval character", and the tag of "search" is used when changing to the display of the retrieval picture P5 before a shortening destination name. The tag of "returning" is prepared, and when returning the abbreviated dialing list display screen P4 to the address point waiting screen P1, it is used next to the tag of this "search." In this example, Konica 2 open [of an abbreviated number "03" / G] is chosen, and the case where a gray indication of that portion is given is shown.

[0071]Then, the display example of the retrieval picture P5 before a shortening destination name which is a low order hierarchy of the abbreviated dialing list display screen P4 is explained. After the retrieval picture P5 before a shortening destination name shown in drawing 7 touches the tag of "search" of the abbreviated dialing list display screen P4 shown in drawing 7, it is displayed on the displaying means 21.

[0072]It is displayed on the retrieval picture P5 before this shortening destination name by the message of "shortening name search" and "please choose a retrieval character and an item", and in that lower part field. "**" which is an initial of a hiragana -- "it is " -- " -- " and "**" -- " -- ", "**", "**", and "**" -- " -- the tag of " and "**" is prepared and the "alphanumeric" tag is prepared for the end. "Konica Hachioji" is registered into an abbreviated number "01" in this lower part field, concerning the display screen of a "destination name", "Konica Hino" is registered into "02" and the "Konica head office" is registered into "03", The case where "the Konica 2 development G" was registered into the abbreviated number "12", and the partner point of the name shown in drawing 8 to "20", "30", "50", "89", "99", "*11", and "*33" is registered hereafter is shown. "this example -- a hiragana -- it is " -- the "Konica 2 development G" of an abbreviated number "12" is chosen, and by having touched the tag shows the case where a gray indication of that tag portion is given.

[0073]The tag for a page rise down is provided in the lower left side even in the retrieval picture P5 before this shortening destination name, in addition the tag of "edit", "deletion", and "returning" is prepared. This tag of "returning" is used when returning the retrieval picture P5 before a shortening destination name to the abbreviated dialing list display screen P4.

[0074]Then, the display example of the group selection picture P6 which is a low order hierarchy of the address registration picture P2 is explained. The group selection picture P6 shown in drawing 9 accomplishes the principal part of a group registration picture, and after it touches the tag of "group registration / edit" of the address registration picture P2 shown in drawing 5, it is displayed on the displaying means 21.

[0075]this group selection picture P6 -- " -- registration [of a group dial] / -- it can edit -- " -- and -- "please choose an item with a group" -- a message is displayed and the item of "NO", a "group name", and an "address" is displayed. About this tag of "NO", consecutive-numbers "01" - "08" is displayed, and it indicates it is the "Konica Corp. head office", "Hachioji", ["unregistered"], and ["unregistered"] etc. about a "group name" corresponding to those consecutive numbers, for example.

[0076]About this "address", the contents of group registration of an abbreviated number "01", "03", "44", and "*20" are displayed corresponding to the "Konica Corp. head office", and the contents of abbreviated number "01" "32" "44" "*99" group registration are displayed corresponding to "Hachioji." A right-hand side upward arrow and downward arrow are a tag for the cursor for searching the address to a group name in this group screen. If an upward arrow is touched, the cursor will slide a group name and address top upward, and if a downward arrow is touched, it is made as [slide / a group name and address top / the cursor / downward]. In this example, it is indicated by gray and the cursor portion is made legible.

[0077]The tag of "address registration", "name registration", "an address check", and "returning" is provided in the lower part field of this display screen. The tag of "address registration" is used when carrying out group address registration, and the tag of "name registration" is used when changing to a name input screen, edit of the group name selected with cursor, and. The tag of an "address check" is used when checking a group address. The tag of "returning" is used when returning the group selection picture P6 to the address registration picture P2.

[0078]In this example, if the tag of "address registration" is touched, it is made as [change / to the group address registration picture P7 / a display]. In this example, the case where cursor is chosen is shown in the "unregistered" tag, and it is made as [check / by choosing the tag of an "address check" / the details of a group address].

[0079]Then, the display example of the group address registration picture P7 which is a low order hierarchy of

the group selection picture P6 is explained. After the group address registration picture P7 shown in drawing 10 touches the tag of "address registration" of the group selection picture P6 shown in drawing 9, it is displayed on the displaying means 21. It is made as [register / at the maximum / only the shortening N0 can be registered into a group dial in this example, and / the address of 200 games].

[0080]this group address registration picture P7 -- for example -- "the group 3 (a name -- : -- unregistered -- / -- an address -- a number -- four -- registering -- an address -- choosing -- give -- " -- a message is displayed and the item of the "order display of N0" and "name search" is displayed.) The tag of "N0 an order display" is used when displaying a group address in order of consecutive numbers, and the tag of "name search" is used when searching a group's destination name.

[0081]It is a tag for the shortcut at the time of "00-", "50-", "*00-", and "*50-" being displayed on the lower part field of this item, and jumping to a specification abbreviated number.

[0082]the lower part field for these shortcut -- as the group's 3 address -- consecutive-numbers "01" - "12" -- "Konica Hachioji", "Konica Hino", and the "Konica head office" ... "the Konica 2 development G" etc. is displayed.

[0083]The upward arrow and downward arrow by the side of the lower left are a tag for the page rise down for searching a group address in this group address registration picture P7. If it is displayed so that page turning over of the group's destination name may be carried out above, if an upward arrow is touched, and a downward arrow is touched, a display will be changed so that page turning over of the group's destination name may be carried out down.

[0084]The tag of "registration" and "returning" is provided in the right area of the tag for this page rise down. "Registration" is used when carrying out group address registration, and when "it returns" returns the group address registration picture P7 to the group selection picture P6, it is used. In this example, after touching the tag of "N0 an order display", "Konica Hachioji", "Konica Hino", the "Konica head office", and the "Konica 2 development G" are chosen as the group's 3 address, and the case where that abbreviated number "01", "02", "03", and "12" are registered is shown. A gray indication of each tag in which it was touched is given.

[0085]Then, the display example of the registration picture P8 before a group name which is a low order hierarchy of the group address registration picture P7 is explained. After the registration picture P8 before a group name shown in drawing 10 touches the tag of "name search" of the group address registration picture P7 shown in the drawing 10, it is displayed on the displaying means 21.

[0086]The same message as the above-mentioned group address registration picture P7 is displayed on the registration picture P8 before this group name, and a gray indication of the item of "name search" is given. the "lower part field of this item -- the initial "**" of a hiragana -- it is " -- " -- " and "**" -- " -- ", "**", "**", and "**" -- " -- the tag of " and "**" is prepared and the "alphanumeric" tag is prepared for that end. "this example -- it is " -- if a tag is touched -- "Konica Hachioji" of an abbreviated number "01". A gray indication of the tag of the "Konica head office" of "Konica Hino" of "02" and "03" and the "Konica 2 development G" of "12" is given, and it is made as [search / the destination name of four affairs registered into the group 3].

[0087]The upward arrow and downward arrow by the side of the lower left are a tag for the page rise down for searching a group name front in the registration picture P8 before this group name. If it is displayed so that page turning over of the group's name may be carried out above, if an upward arrow is touched, and a downward arrow is touched, it is made as [change / so that page turning over of the group's name may be carried out down / a display].

[0088]The tag of "registration" and "returning" is provided in the right area of the tag for this page rise down. "Registration" is used when registering before a group name, and when "it returns" returns the registration picture P8 before a group name to the group address registration picture P7, it is used. In this example, even when the tag of "the order display of N0" is touched, the registration picture P8 before a group name can be returned to the group address registration picture P7.

[0089]Then, the display example of the group address confirmation screen P9 which is a low order hierarchy of the group selection picture P6 is explained. After the group address confirmation screen P9 shown in drawing 11 touches the tag of "an address check" of the group selection picture P6 shown in drawing 9, it is displayed on the displaying means 21.

[0090]this group address confirmation screen P9 -- for example -- "the group 3 (a name -- : -- unregistered -- / -- an address -- a number -- seven -- registration -- the contents -- it can check -- " -- a message is displayed and the item of the "shortening N0" and a "destination name" is displayed.) For example, a gray indication of the Konica Corp. 2 open center of the abbreviated number "03" to which it pointed with the tag for cursor is given, and it is made as [check / it / registering with the group 3]. The tag for a page rise down is provided in the lower left side besides the tag for these cursor, and it is made as [carry out / the screen of "the shortening N0" / page turning over].

[0091]The tag of "deletion" and "returning" is provided in the right-hand side of the tag for this page rise down. The tag of this "deletion" is used when deleting a group's name, and it is used when "it returns" returns the group address confirmation screen P9 to the group selection picture P6.

[0092]Next, the operation instances at the time of the addition of the address of the group concerning the facsimile function of the composite machine 100 adapting the 1st composite machine as an embodiment, correction, and deletion are explained. In this example, the mode change key 23 is already pressed and the case where the basic waiting screen (manuscript setting out) P0 is displayed on the displaying means 21 is assumed.

[0093]** When adding a group's address, display the destination table waiting screen P1 as touched the tag of the "destination table" of the basic waiting screen P0 shown in drawing 3 first and shown in drawing 4 on the displaying means 21. Then, the tag of "registration" in the destination table waiting screen P1 is touched, and the address registration picture P2 as shown in drawing 5 is displayed on the displaying means 21.

[0094]Then, the tag of "the group registration / edit" in the address registration picture P2 is touched, and the group selection picture P6 shown in drawing 9 is displayed on the displaying means 21. And the unregistered field by which it was indicated by gray in the group selection picture P6 is chosen. Then, the tag of "address registration" in the group selection picture P6 is touched, and the group address registration picture P7 shown in drawing 10 is displayed on the displaying means 21.

[0095]Here, if the tag of "name search" in the group address registration picture P7 is touched in order to, choose the address registered into the group 3 for example, the registration picture P8 before a group name will be displayed on the displaying means 21. in the registration picture P8 before a group name, the "Konica head office" is displayed to "Konica Hino" and "03" to "Konica Hachioji" and "02" to an abbreviated number "01" "ABC" is displayed to ***** "33" below. "this example -- it is " -- a touch of a tag will give a gray indication of the "Konica head office" of "Konica Hino" of "Konica Hachioji" of an abbreviated number "01", and "02", and "03", and Konica 2 open [of "12" / G] as a candidate in front of a group name, for example.

[0096]If the tag of "registration" is touched in the group address registration picture P7, a display will be changed to the group selection picture P6. Then, if the tag of an "address check" is touched, it can shift to drawing 11, the "Konica head office" of "Konica Hino" of "Konica Hachioji" of an abbreviated number "01" and "02" and "03" and Konica 2 open [of "12" / G] can be added, and it can be checked in the group address registration picture P7.

[0097]** Display the address registration picture P2 as shown in drawing 4 mentioned above when a group's address was corrected on the displaying means 21. Then, the tag of "the abbreviating registration/edit" in the address registration picture P2 is touched, and the abbreviated dialing addition / edit display P3 shown in drawing 6 are displayed on the displaying means 21. "and -- specifying "99" as "the shortening N0" and inputting "0426-60-9291" as a new number to be dialed using the ten key 92 -- a "retrieval character" -- it is " -- a tag is chosen and the name "Konica Corp. 2 Development Center" etc. are reregistered. Thereby, a group's address is correctable.

[0098]** Display the address registration picture P2 as shown in drawing 5 mentioned above when a group's address was deleted on the displaying means 21. Then, the tag of "the shortening list / search" in the address registration picture P2 is touched, and the abbreviated dialing list display screen P4 shown in drawing 7 is displayed on the displaying means 21. And on the abbreviated dialing list display screen P4, he would like to delete the tag for cursor, for example, it is set by "Konica 2 open one G" of an abbreviated number "03." Since a gray indication of the portion of this cursor is given, if the tag of "deletion" in that same screen is touched, The address of the portion by which it was indicated by gray can be deleted, and it can delete "Konica 2 open one G" of the abbreviated number "03" from the tag of "address registration" in the group selection picture P6 after that.

[0099]Thus, since the display screen of a layered structure is prepared beforehand according to the composite machine 100 adapting the composite machine as a 1st embodiment, In the group selection picture of the displaying means 21, two or more partner points are registered as a group, and can specify a group as the partner point of a communications program, and addition of the partner point, deletion, and correction can be performed from the group selection picture. Therefore, it can face setting up the partner point of a communications program, and the alter operation nature of key information can be raised.

[0100]According to this embodiment, since key information, including "1:addition", "2:deletion", "a 3:transmitting start", etc., is not displayed in one screen like a conventional system, a possibility that a user may operate selection of key information accidentally disappears. Therefore, when changing the partner point of a communications program, a possibility of deleting the telephone number of the existing partner point, or making a mistake to a communications program and registering an address disappears.

[0101]Then, the one-touch program registration screen of the composite machine 100 is explained. Drawing 12 is a figure showing the example of display transition of the one-touch program registration screen of the composite

machine 100. Drawing 13 is a figure showing the display example and its example of transition of its program registration / edit display P11, and P12. Drawing 14 shows other display examples and examples of transition. [0102]In this example, when the tag of "program registration / edit" or "a program list" is chosen in the address registration picture P2 of a 1st embodiment, the screen for performing registration and edit to a one-touch program key is displayed on the displaying means 21 shown in drawing 2.

[0103]For example, if the tag of a "program list" is touched in the address registration picture P2 shown in drawing 12, Even when the program list display screen P10 is displayed on the displaying means 21 and touches the tag of "program registration/edit" in the address registration picture P2, it is made as [display / on the displaying means 21 / the program list display screen P10]. The message of "a program registration list" and "please choose an item" is displayed on this program list display screen P10, and items, such as a tag of "N0", "address setting out", "manuscript setting out", "application setting out", are prepared.

[0104]The "Konica Corp. head office" is registered into an abbreviated number "01" in this example, concerning the list display of the contents of registration, "Konica Corp. Hachioji" is registered into "02", a "Konica Corp. 2 open center" is registered into "03", and the case of being unregistered is shown to the following abbreviated numbers "04", "05", and "06." The "Konica Corp. 2 open center" of an abbreviated number "03" is chosen in this example, a gray indication of that portion is given, and that abbreviated number "03" turns into a one touch number.

[0105]A right-hand side upward arrow and downward arrow are a tag for the cursor for searching a destination name on the screen of this "address setting out." If an upward arrow is touched, cursor will move upward in a destination name top, and if a downward arrow is touched, it is made as [move / downward / in a destination name top / cursor]. The tag for a page rise down is provided in the lower left side besides the tag for these cursor, and it is made as [carry out / the screen of "address setting out" / page turning over]. The tag of a "check", "edit", "deletion", and "returning" is prepared next to it.

[0106]The tag of this "check" is used, when changing an address setting detail to a check screen, or when checking the details of an address. The tag of "edit" is used at the time of correction of the address setting detail selected with cursor, the tag of "deletion" is used at the time of deletion of the address setting detail selected with cursor, and the tag of "returning" is used when returning to the last screen. In this example, if the tag of "returning" is touched, a display will come to return from the program list display screen P10 to the address registration picture P2.

[0107]Then, the display example of the program registration screen P11 which is a low order hierarchy of the program list display screen P10 is explained. After the program registration screen P11 shown in drawing 13 touches the tag of "edit" of the program list display screen P10 shown in drawing 12, it is displayed on the displaying means 21.

[0108]The message of "program registration/edit being able to do" and "please set up an item" up is displayed on this program registration screen P11, and "01" is displayed as the tag of "the program N0", and its abbreviated number. The tag of "the address N0" is provided in these lower part fields, and the field which displays the telephone number of the partner points, such as "0426-60-9291", is prepared for the right-hand side. Tags, such as an "extension", "shortening", a "group", a "tone", a "pause", "-", and "deletion", are displayed on the lower part field. The tag of a "group" is used when registering a group as an address. It is as a 1st embodiment having explained an "extension", "shortening", a "tone", a "pause", "-", and "deletion."

[0109]The tag of a "name" and the field which displays "Konica Corp. 2 Development Center" etc. as the example are prepared for the lower part field. The tag of "manuscript setting out" and tags, such as "application communicate mode setting out", are prepared for the lower part field.

[0110]If the tags of this "manuscript setting out" are the same contents as "manuscript setting out" explained in the basic waiting screen (manuscript setting out) P0 of a 1st embodiment and the tag of this "manuscript setting out" is touched, Attributes, such as "RDAF", "resolution", "image quality", and "concentration", are displayed, and a manuscript can be set up in the mode corresponding to each display.

[0111]""The tag of application communicate mode setting-out" is "2inch1 transmission," Page continuous-shooting transmission, It is used when performing special transmission methods, such as "frame deleting transmission", "mixed-loading manuscript transmission", "timer transmission", "polling transmission", "manuscript number-of-sheets setting-out transmission", "transoceanic communication mode transmission", or "ECM OFF transmission." A gray indication of the touched item is given also in this example.

[0112]If the tag of a "check", "registration", and "returning" is prepared for these lower part fields and the tag of "registration" or "returning" is touched, it is made as [return / to the address registration picture P2 / a display]. Therefore, the address registration picture P2, the program list display screen P10, and the program registration screen P11 are displayed on the displaying means 21 so that it may indicate by circulation (rotation).

[0113]Then, the display example of the program registration screen P12 concerning manuscript setting out which

is a low order hierarchy of the program registration screen P11 is explained. After the program registration screen P12 concerning manuscript setting out shown in drawing 13 touches the tag of "manuscript setting out" of the program registration screen P11 shown in the figure, it is displayed on the displaying means 21.

[0114] Although the same message as **** is displayed on this program registration screen P12, the contents of the tag of "manuscript setting out" are displayed. Tags, such as "cover + both sides", "both sides", and "one side", are displayed on the lower part field of "RDAF." A tag, like "it is a "high definition", ["minute"], and common" is displayed on the lower part field of "resolution." It is made as [record / in the mode corresponding to each display / on a recording form / a manuscript].

[0115] Tags, such as a "photograph", a "character photograph", and a "character", are displayed on the lower part field of this "image quality", and it is made as [set / the image quality of a manuscript]. In the lower part field of "concentration", a tag, like "it is ["common"] and light" is displayed "deeply", and it is made as [record / with "automatic" and the copy density corresponding to each display / on a recording form / a manuscript]. Also from this one-touch program registration screen, a manuscript can be set up in the mode corresponding to each display.

[0116] The tag of "cancellation" and "setting out" is prepared for the lower right side of this program registration screen P12. If the tag of "cancellation" or "setting out" is touched, it is made as [return / to the program registration screen P11 in front of / of the program registration screen P12 / one / a display].

[0117] Then, the display example of the program registration screen P13 concerning application communicate mode setting out which is other low order hierarchies of the program registration screen P11 is explained. After the program registration screen P13 concerning application communicate mode setting out shown in drawing 14 touches the tag of "application communicate mode setting out" of the program registration screen P11 shown in the figure, it is displayed on the displaying means 21.

[0118] The message of "program registration/edit being able to do" and "please set up application communicate mode" up is displayed on this program registration screen P13. Tags, such as "2-inch 1 transmission", "page continuous-shooting transmission", "frame deleting transmission", "mixed-loading manuscript transmission", "timer transmission", "polling transmission", "manuscript number-of-sheets setting-out transmission", "transoceanic communication mode transmission", or "ECM OFF transmission", are displayed. The tag of "2-inch 1 transmission" is used when setting up turning on and off of 2-inch the 1 transmission which packs two manuscripts into one and transmits, and the tag of "page continuous-shooting transmission" is used when changing to the selection picture of a page continuous shooting mode.

[0119] The tag of this "frame deleting transmission" is used when changing to the selection picture of frame deleting transmission of a manuscript, and the tag of "mixed-loading manuscript transmission" is used when setting up turning on and off in the mixed-loading manuscript mode which mixes the manuscript of various sizes together and transmits. The tag of "timer transmission" is used when changing to a communication start time setting screen, and the tag of "polling transmission" is used when setting up turning on and off of polling receiving mode. The tag of "manuscript number-of-sheets setting-out transmission" is used when changing to a manuscript number-of-sheets setting screen, and the tag of "transoceanic communication mode transmission" is used when setting up turning on and off in transoceanic communication mode. The tag of "ECM OFF transmission" is used when turning on and off of ECM sets up.

[0120] In this example, it is touched in the tag of "2-inch 1 transmission", and the case where a gray indication of that portion is given is shown. The tag of "cancellation" and "setting out" is prepared for the lower right side of this program registration screen P14. If the tag of "cancellation" or "setting out" is touched, it is made as [return / to the program registration screen P11 / from the program registration screen P14 / a display].

[0121] (2) Example drawing 15 of registration - drawing 17 of a communications program of the composite machine 100 are a flow chart which shows the example of registration of the communications program of the composite machine 100. Also in this example, the mode change key 23 is already pressed and the case where the basic waiting screen (manuscript setting out) P0 is displayed on the displaying means 21 is assumed. And it is a case where a display changes from the basic waiting screen P0 in order of the address display waiting screen P1, the address registration picture P2, and the program list display screen P10. For example, the "Konica Corp. 2 open center" of an abbreviated number "03" is explained to a group's address about one-touch and the case where program registration is carried out.

[0122] It waits to push the tag (henceforth a registering button) of "registration" for example, on the address display waiting screen P1 first at Step A1 of the flow chart shown in drawing 15 on the assumption that this. When a registering button is pushed by the user, The address registration picture P2 shown in drawing 5 from the address display waiting screen P1 shown in drawing 4 is displayed, and the program list display screen P10 shown in drawing 12 is expressed to the displaying means 21 as the same effect as having touched the tag of "program registration/edit" in this address registration picture P2. And it shifts to Step A2 and the program NO is cleared

on the program list display screen P10. For example, the "Konica Corp. 2 open center" of the one TAITCHI number "03" by which it was indicated by gray on the program registration list display screen P10 is chosen.

[0123]Then, the program registration screen P11 which shifted to step A3 and was shown in drawing 13 is displayed on the displaying means 21, and the program NO is displayed. And the control means 11 waits to press the ten key 92 by step A4. It waits to shift to step A5 and for the tag (henceforth an address button) of an "address" to be pushed on the program registration screen P11 by him, for example, when the ten keys 92, such as "0426-60-9291", are pressed by the user. When an address button is pushed by the user, it shifts to Step A6, and the program NO data concerned is read from the nonvolatile memory 31, and is set to the buffer memory 32.

[0124]Then, it shifts to Step A7 and program NO data is displayed on the displaying means 21. And it waits to push the ten key 92 or an "address" related button at Step A8. When an "address" related button etc. are pushed by the user, it shifts to step A9 of the flow chart shown in drawing 16, and an address is displayed on the displaying means 21. For example, in program registration / edit display P11, "0426-60-9291" is registered by "01" as the program NO, and is registered as the address NO.

[0125]Then, it is distinguished whether it shifted to Step A10 and the tag of the "name" was pushed. When the tag of a "name" is pushed by the user, the name input screen which shifts to Step A11 and is not illustrated from program registration / edit display P11 by the displaying means 21 changes (resemblance : refer to [Name retrieval picture P8] drawing 8). Here, a "Konica Corp. 2 open center" is inputted about a name. And it waits to direct "cancellation" or "setting out" at Step A12 in a name input screen. Here, in "cancellation", it returns to Step A10. When the tag of a "name" is not pushed at this step A10, and in "setting up" up a name at Step A12, it shifts to Step A13. By "setting out" of this name, or "cancellation", a display changes from a name input screen to the program registration list display screen P10 by the displaying means 21.

[0126]At Step A13, it is distinguished on the program registration list display screen P10 whether the tag of "manuscript setting out" was pushed. When the tag of "manuscript setting out" is pushed by the user, the program registration screen P12 which shifted to Step A14 and was shown in drawing 13 is displayed by the displaying means 21, and a manuscript setting screen is displayed on this registration picture P12.

[0127]And it waits to direct "cancellation" or "setting out" in a manuscript setting screen about setting-out items, such as "RDAF", "resolution", "image quality", and "concentration", at Step A15. Here, in "cancellation", it returns to Step A13. When the tag of "manuscript setting out" is not pushed at this step A13, And when "setting up" up about setting-out items, such as "RDAF", "resolution", "image quality", and "concentration", at Step A15, it shifts to Step A16 and the displaying means 21 changes in a display from the program registration screen P12 to the program registration list display screen P10.

[0128]At Step A16, it is distinguished by the control means 11 whether the tag of "setting out" of application communicate mode was pushed on the program registration list display screen P10. When the tag of "setting out" of application communicate mode is pushed by the user, it shifts to Step A17, the program registration screen P13 is displayed by the displaying means 21, and the setting screen of application communicate mode is displayed in the registration picture P13.

[0129]By Step A18, on the program registration screen P13 And "2-inch 1 transmission", It waits to direct "cancellation" or "setting out" about setting-out items, such as "page continuous-shooting transmission", "frame deleting transmission", "mixed-loading manuscript transmission", "timer transmission", "polling transmission", "manuscript number-of-sheets setting-out transmission", "transoceanic communication mode transmission", or "ECM OFF transmission." Here, in "cancellation", it returns to Step A16. When the tag of "setting out" of application communicate mode is not pushed at this step A16, At Step A18, and "2-inch 1 transmission", "page continuous-shooting transmission", "frame deleting transmission", "Mixed-loading manuscript transmission", "timer transmission", "polling transmission", "manuscript number-of-sheets setting-out transmission", When "setting up" up about setting-out items, such as "transoceanic communication mode transmission" or "ECM OFF transmission", it shifts to Step A19 of the flow chart shown in drawing 17, and the program registration list display screen P10 changes in a display from the program registration screen P13 by the displaying means 21.

[0130]At this step A19, it is distinguished whether the tag of the "check" was pushed on the program registration list display screen P10. When the tag of a "check" is pushed by the user, it shifts to Step A20 and the displaying means 21 changes on a check screen. At this time, the contents of program registration can be checked also with the check button 93 of the navigational panel 90.

[0131]And the tag of "returning" is pushed on the check screen by Step A21, and it is distinguished whether it is ****. Here, when the tag of "returning" is pushed, it returns to Step A19. When the tag of a "check" is not pushed at this step A19, and when the tag of "returning" is not pushed at Step A21, it shifts to Step A22, and the program registration screen P11 changes in a display from the program registration list display screen P10 by the displaying means 21.

[0132]At this step A22, it waits to push a registering button on the program registration screen P11. Here, when a registering button is pushed, it shifts to Step A23. Registration processing is carried out at this step A23. The data of one-touch and the "Konica Corp. 2 open center" of the abbreviated number "03" by which program registration was carried out is memorized by the nonvolatile memory 31 here at a group's address.

[0133]Then, it shifts to Step A24, the tag of "returning" is pushed on the program registration screen P11, and it is supervised whether it is ****. Here, when the tag of "returning" is pushed, it shifts to Step A25 and front screens, such as the address registration picture P2, the address display waiting screen P1, and the basic waiting screen P0, change in a display from the program registration list display screen P10.

[0134]Therefore, in one-touch, the case where program registration is carried out, etc., since the user can choose an "address" as an "address" by the one touch key 91, to it the group N0, Speedy moreover, operating conditions, such as a duplication function and a facsimile function, can be set up the optimal compared with a conventional system about each mode.

[0135](3) The 1st example drawing 18 of operation at the time of the FAX transmission of the composite machine 100 is a flow chart which shows the 1st example of operation at the time of the FAX transmission of the composite machine 100 adapting the correspondence procedure as an embodiment. In this example, when the stop key 98 is pressed during execution in the automatic call origination mode by the one touch key 91, it is made as [shift / to manual call origination mode / automatically]. And manual call origination mode by the ten key 92 is performed at Steps B1-B3, Step B7, and Step B15 of the flow chart shown in drawing 18, Manual call origination mode by abbreviated key 92' is performed at the step B4 - B6, Step B7, and Step B15, and automatic call origination mode by the one touch key 91 is performed at the steps B8-B12, Step B14, and Step B15.

[0136]In the manual call origination mode by the ten key 92, it is detected by the control means 11 whether the ten key 92 was first pressed at Step B1 of the flow chart shown in drawing 15 on the assumption that this. When this ten key 92 is pressed by the user, it shifts to step B-2. In step B-2, it waits to all input the telephone number of the partner point. When the telephone number of the partner point is all inputted, it shifts to Step B3 and an address indication of the telephone number of the partner point is given at the displaying means 21. The basic waiting screen P0 or the destination table waiting screen P1 shown in drawing 3 is displayed on the displaying means 21 in this case.

[0137]Then, it shifts to Step B7 and the control means 11 waits for the start key 911 to be pressed by the user. When the start key 911 is pressed, it shifts to Step B15 and FAX transmission processing is performed. In this case, in the means of communication 14 which inputted the starting command signal generated with manual call origination mode, a manuscript send action is performed to the communication terminal of the partner point via a communication line with a predetermined communication procedure. Thereby, a manuscript picture can be transmitted to a partner point device with the manual call origination mode by the ten key 92.

[0138]In the manual call origination mode by abbreviated key 92', since the ten key 92 is not pressed at Step B1 of the flow chart shown in drawing 18, it is detected by the control means 11 whether it shifted to step B4 and abbreviated key 92' was pushed. When abbreviated key 92' is pushed, it shifts to step B5. In step B5, the counterpart point registered into the nonvolatile memory 31 is set to the buffer memory 32 by the control means 11.

[0139]Then, it shifts to step B6 and an address indication of the telephone number of the partner point is given at the displaying means 21. The destination table waiting screen P1 etc. which were shown in drawing 3 are displayed on the displaying means 21 in this case. And it waits to shift to Step B7 and to press the start key 911. When the start key 911 is pressed, it shifts to Step B15 and FAX transmission processing is performed. Also in this case, a manuscript send action is performed to the communication terminal of the partner point via a communication line with a predetermined communication procedure by the means of communication 14 which inputted the starting command signal by manual call origination mode. Thereby, a manuscript picture can be transmitted to a partner point device with the manual call origination mode by abbreviated key 92'.

[0140]In the automatic call origination mode by the one touch key 91, since abbreviated key 92' is not pushed by step B4 of the flow chart shown in drawing 18, it is detected by the control means 11 whether it shifted to step B4 and the one touch key 91 was pressed. When the one touch key 91 is pressed, it shifts to Step B9. At Step B9, the counterpart point registered into the nonvolatile memory 31 is set to the buffer memory 32 by the control means 11. Then, it shifts to Step B10 and an address indication of the telephone number of the partner point is given at the displaying means 21. The destination table waiting screen P1 etc. which were shown in drawing 3 are displayed on the displaying means 21 in this case.

[0141]And it shifts to Step B11 and a one-touch timer is started. It is for this timer set transmitting a manuscript picture automatically to an other party device after fixed time lapse. Then, it is supervised whether the stop key 98 was pressed by the control means 11 at Step B12. When the deadline of is passed without pressing the stop key 98, it shifts to Step B15 and FAX transmission processing is performed. In this case, a

manuscript send action is performed to the communication terminal of the partner point via a communication line with a predetermined communication procedure by the means of communication 14 which inputted the starting command signal generated with automatic call origination mode. Thereby, a manuscript picture can be transmitted to a partner point device with the automatic call origination mode by the one touch key 91.

[0142]And when the stop key 98 is pressed at Step B12, it shifts to Step B13, and a memory content is cleared by the buffer memory 32, automatic call origination mode is stopped, and it returns to Step B1, and shifts to manual call origination mode. In this case, the destination table waiting screen P1 etc. which were shown in drawing 3 are displayed on the displaying means 21, and a new partner first-move item and the group number are added to the communications program containing the partner point already registered into the nonvolatile memory 31 on this screen by the user, or the contents of that communications program are changed. Subsequent key input operations and data processing are as having mentioned above.

[0143]By thus, the thing for which the stop key 98 was pressed at Step B12 after the one touch key 91 was pressed at Step B8 of the flow chart shown in drawing 18 according to the composite machine 100 adapting the correspondence procedure as this embodiment. When automatic call origination mode was not performed by the control means 11 and it is distinguished by the communications program containing the partner point registered beforehand, automatic call origination mode is stopped by Step B13, it returns to Step B1, and manual call origination mode is performed by it.

[0144]Therefore, the destination table waiting screen P1 etc. are displayed on the displaying means 21 in Step B3 and step B6 of the flow chart, a partner first-move item and the group number can be added to the communications program containing the already registered partner point, or the contents of the communications program can be changed. Since a call origination start can be carried out with manual call origination mode by this at the partner point newly registered by the input of the start key 911, the use area of the one touch key 91 and its utility value can be expanded and raised substantially.

[0145](4) The 2nd example drawing 19 of operation and drawing 20 at the time of the FAX transmission of the composite machine 100 are a flow chart which shows the example of operation at the time of two or more address transmission by the one touch key 91 of the composite machine 100 (the 1, 2).

[0146]It is a case where automatic call origination mode by the one touch key 91 is performed in this example, It is a case where one-touch program registration items include an unset up item, The setting-out item which stopped automatic call origination mode, shifted to manual call origination mode, registered the unset up item, and was beforehand registered into the nonvolatile memory 32 after the one touch key 91 was pressed, The case where transmitting processing is performed based on the communications program which compounded the newly registered setting-out item is assumed.

[0147]In this example, automatic call origination mode by the usual one touch key 91 is performed at Step C1 of the flow chart shown in drawing 19 – Step C10, and Step C14. And when “setting out” of for example, two or more addresses is not made by the one-touch program registration item, perform automatic call origination mode to the middle at the step C1 – Step C7, but. Automatic call origination mode is stopped by Step C11, it shifts to manual call origination mode, the case where manual call origination mode is performed at Step C12 – Step C14 after that is made into an example, and it explains.

[0148]The control means 11 waits to press the one touch key 91 first at Step C1 of the flow chart shown in drawing 19 on the assumption that this. When the one touch key 91 is pressed by the user, it shifts to Step C2 and it is distinguished whether manuscript size is [*****] under detection now. Since it is assumed that manuscript reading which was shown in drawing 1 and which is depended reading means 12 is already performed, and manual call origination mode is performed when manuscript size is under detection, it shifts to Step C11 of the flow chart shown in drawing 20.

[0149]When it is not [manuscript size] under detection at Step C2, it shifts to Step C3, the start key 911 is pressed, and it is detected by the mere control means 11. Since it is not in automatic call origination mode and manual call origination mode is performed when the start key 911 is pressed, it shifts to Step C11. Therefore, when the start key 911 is not pressed at Step C3, it shifts to Step C4 and it is distinguished during manuscript reading whether manuscript paper is jam (paper feeding mistake) ****. Since manuscript paper is performing not automatic call origination mode but manual call origination mode to the JAMU **** case, it shifts to Step C11.

[0150]And when manuscript paper is not in jam at Step C4, it is detected by the control means 11 whether it shifts to Step C5 and the one-touch program is registered into the nonvolatile memory 31. Since automatic call origination mode cannot be performed when this one-touch program is not registered into the nonvolatile memory 31, it shifts to Step C11. When the one-touch program is registered into the nonvolatile memory 31, it shifts to Step C6 and applicable program NO data is read from the nonvolatile memory 31 to the buffer memory 32. Then, it is distinguished by the control means 11 whether it shifts to Step C7 and “setting out” of two or more addresses is made.

[0151]When "setting out" of two or more addresses was made at Step C7 and it is distinguished, it shifts to Step C8, and the dial of the communication terminal of the partner point is set up, it shifts to Step C9 after that, and a one-touch timer is started by the control means 11. It is for this timer set transmitting a manuscript picture automatically to the communication terminal of the partner point after fixed time lapse.

[0152]And it is supervised by the control means 11 whether the deadline of the predetermined time was passed at Step C10. When this predetermined time passes the deadline of, it shifts to Step C14 and FAX transmission processing is performed. At this time, a manuscript picture is automatically transmitted by the means of communication 14 with a predetermined communication procedure via a communication line to the communication terminal of the partner point. Thereby, automatic call origination mode by the usual one touch key 91 can be performed.

[0153]By the way, when it is [manuscript size] under detection at Step C2 and the start key 911 is already pressed at Step C3, When a manuscript is registered at Step C4 and the one-touch program is not registered at Step C5 as for a JAMU **** case, And when "setting out" of two or more addresses is not made by the one-touch program registration item at Step C7, that automatic call origination mode should be stopped and manual call origination mode should be performed, it shifts to Step C11 and waits for the input of the ten key 92 or an address related button.

[0154]When the address of the communication terminal of the partner point is inputted by the ten key 92 or the address button at this step C11, it shifts to Step C12 and two or more addresses are displayed on the displaying means 21. At Step C11, the communications program containing the address of the buffer memory 32 is added to the communication management file of the nonvolatile memory 31 by the control means 11. Henceforth, it is for using the registration information on this counterpart point.

[0155]Then, it waits to shift to Step C13 and to press the start key 911. When the start key 911 is pressed by the user, it shifts to Step C14 and FAX transmission processing is performed. At this time, a manuscript picture is automatically transmitted by the means of communication 14 with a predetermined communication procedure via a communication line to the communication terminal of the partner point.

[0156]Thus, it is a case where automatic call origination mode by the one touch key 91 is performed in this embodiment at Step C1 of the flow chart shown in drawing 19, Since automatic call origination mode can be stopped and manual call origination mode of Step C11 – Step C14 can be performed when an unset up item is discovered by the one-touch program registration item at the step C7, Based on the communications program which compounded the setting-out item which registered the unset up item and was beforehand registered into the nonvolatile memory 32, and the newly registered setting-out item, FAX transmission processing can be performed at Step C14.

[0157]Therefore, since the automatic call origination mode can be stopped and manual call origination mode can be performed also from the middle of performing automatic call origination mode by the one touch key 91, the use area of the one touch key 91 and its utility value can be expanded and raised substantially.

[0158](5) The 3rd example drawing 21 of operation and drawing 22 of the composite machine 100 are a flow chart which shows the example of operation at the time of other two or more address transmission by the one touch key 91 of the composite machine 100 (the 1, 2).

[0159]In this example, it is a case where automatic call origination mode by the one touch key 91 is performed, and automatic call origination mode by the usual one touch key 91 is performed at Step D1 of the flow chart shown in drawing 21 – Step D9, and Steps D12–D16. And for example, although the plurality "destination name" is registered into the one-touch program registration item, When the telephone number of the partner point is unregistered, Automatic call origination mode is performed to the middle at the step D1 – Step D8, Stop automatic call origination mode by Step D9, and it once shifts to manual call origination mode, Then, dial setting out by manual call origination mode is performed at Step D10, and it is a case where it returns to automatic call origination mode, and after that, again, when deadline is performed normally, the case where it is not performed normally is assumed. In this example, it is made as [shift / when deadline carries out abnormal termination / to manual call origination mode / again].

[0160]It shifts to Step D1 of the flow chart shown in drawing 21 first on the assumption that this, and it waits for the input of the ten key 92 or an address related button. When the "address" of the communication terminal of the partner point is inputted by the ten key 92 or the address button at this step D1, it shifts to Step D2 and two or more "addresses" is displayed on the displaying means 21. At Step D1, the communications program containing the address of the buffer memory 32 is added to the communication management file of the nonvolatile memory 31 by the control means 11. Henceforth, it is for using the registration information on this counterpart point.

[0161]Then, the control means 11 waits to press the one touch key 91 at Step D3. When the one touch key 91 is pressed by the user, it shifts to Step D4 and it is distinguished whether manuscript size is [*****] under

detection now. Since it is assumed that manuscript reading which was shown in drawing 1 and which is depended reading means 12 is already performed, and manual call origination mode is performed when manuscript size is under detection, it shifts to Step D15 of the flow chart shown in drawing 22. It is for stopping automatic call origination mode and performing the transmitting start by manual call origination mode.

[0162]When it is not [manuscript size] under detection at Step D4, it is detected by the control means 11 whether it shifted to Step D5 and the start key 911 was pressed. Since it is not in automatic call origination mode and manual call origination mode is performed when the start key 911 is pressed, it shifts to Step D15. Therefore, when the start key 911 is not pressed at Step D5, it shifts to Step D6 and it is distinguished during manuscript reading whether manuscript paper is jam (paper feeding mistake) ****. Since manuscript paper is performing not automatic call origination mode but manual call origination mode to the JAMU **** case, it shifts to Step D15.

[0163]And when manuscript paper is not in jam at Step D6, it is detected by the control means 11 whether it shifts to Step D7 and the one-touch program is registered into the nonvolatile memory 31. Since automatic call origination mode cannot be performed when this one-touch program is not registered into the nonvolatile memory 31, it shifts to Step D15. When the one-touch program is registered into the nonvolatile memory 31, it shifts to Step D8 and applicable program NO data is read from the nonvolatile memory 31 to the buffer memory 32.

[0164]Then, it is distinguished at Step D9 whether the telephone number of the partner point was inputted (destination input) from applicable program NO data. When a destination input is carried out from this data, it shifts to Step D12 and a one-touch timer is started by the control means 11. It is for this timer set transmitting a manuscript picture automatically to the communication terminal of the partner point after fixed time lapse.

[0165]And it is supervised by the control means 11 whether the predetermined time passed normally at Step D13. When this predetermined time passes the deadline of normally, it shifts to Step D14 and the check before start processing is performed. The check in this case is the check of whether the communications program required for FAX transmission processing is ready to the communication terminal of the partner point, when that communications program is ready, shifts to Step D16 and performs FAX transmission processing. At this time, a manuscript picture is automatically transmitted by the means of communication 14 with a predetermined communication procedure via a communication line to the communication terminal of the partner point. Thereby, automatic call origination mode by the usual one touch key 91 can be performed.

[0166]By the way, when the telephone number of the partner point is not inputted from applicable program NO data at Step D9 (destination input). It is distinguished by the control means 11 whether that automatic call origination mode should be interrupted temporarily and it should change in manual call origination mode, it shifts to Step D10 and the telephone number of the partner point is set as one-touch program registration. Here, the telephone number of the partner point is set as one-touch program registration by the user at Step D10. In this case, it shifts to Step D11 and the dial of the communication terminal of the partner point is set up, after that, it returns to automatic call origination mode, and a one-touch timer is started by the control means 11 at Step D12.

[0167]And it is supervised by the control means 11 whether the deadline of the predetermined time was passed at Step D13. When this predetermined time passes the deadline of, it shifts to Step D14 and the check before start processing is performed. The check in this case is as having mentioned above, when the communications program required for FAX transmission processing is ready, shifts to Step D16 and performs FAX transmission processing. At this time, a manuscript picture is automatically transmitted by the means of communication 14 with a predetermined communication procedure via a communication line to the communication terminal of the partner point. Thereby, after pressing the one touch key 91, even if it is a case where a destination input is not carried out from a communications program, automatic call origination mode can be performed.

[0168]When it is [manuscript size] under detection at Step D4 and the start key 911 is already pressed at Step D5, When a manuscript is registered at Step D6 and the one-touch program is not registered at Step D7 as for a JAMU **** case, When "setting out" is not made for the telephone number of the partner point by the one-touch program registration item at Step D10, When deadline carries out abnormal termination at Step D13, and when an error arises with the check before start processing in Step D14, it waits to shift to Step D15 and to press the start key 911 that automatic call origination mode should be stopped and manual call origination mode should be performed.

[0169]Here, when the start key 911 is pressed by the user, it shifts to Step D16 and FAX transmission processing is performed. At this time, a manuscript picture is automatically transmitted by the means of communication 14 with a predetermined communication procedure via a communication line to the communication terminal of the partner point.

[0170]Thus, it is a case where automatic call origination mode by the one touch key 91 is performed in this

embodiment at Step D3 of the flow chart shown in drawing 21, Since automatic call origination mode can once be stopped and manual call origination mode can be performed at the step D10 when un-registering of the telephone number of the partner point is discovered by the one-touch program registration item at the step D9, Based on the communications program which compounded two or more partner points which newly registered the telephone number and were beforehand registered into the nonvolatile memory 32, and the newly registered telephone number, FAX transmission processing can be performed at Step D16.

[0171]Therefore, while performing automatic call origination mode by the one touch key 91, Since it can shift to manual call origination mode, it can once return to automatic call origination mode again and FAX transmission processing can be performed, the use area of the one touch key 91 and its utility value can be expanded and raised substantially.

[0172]Although this embodiment explained the composite machine 100 provided with the duplication function and the facsimile function about the composite machine 100, It is not restricted to this, and the same effect is acquired even if it is the composite machine provided with three functions, the case of only the facsimile machine which can transmit, a duplication function and a facsimile function, and a printer function, only based on the communications program.

[0173]

[Effect of the Invention]As explained above, when the one touch key is pressed according to the communication apparatus of this invention, by the communications program containing the partner point registered into the registration means. When automatic call origination mode was not performed and it distinguishes, the control means which stops automatic call origination mode and performs manual call origination mode is established.

[0174]A partner first-move item and the group number can be added to the communications program which contains the partner point beforehand registered into the registration means by this composition, or the contents of that communications program can be changed. Therefore, since communications processing can be performed based on the communications program which compounded the setting-out item beforehand registered into the registration means, and the newly registered setting-out item, the use area of a one touch key and its utility value can be expanded and raised substantially.

[0175]According to the correspondence procedure of this invention, when the one touch key is pressed, and automatic call origination mode was not performed and it is distinguished by the communications program containing the partner point, automatic call origination mode is stopped and it is made to perform manual call origination mode by it.

[0176]A partner first-move item and the group number can be added to the communications program which contains the already registered partner point by this composition, or the contents of that communications program can be changed. Therefore, since communications processing can be performed based on the communications program which compounded the setting-out item registered beforehand and the newly registered setting-out item, the use area of a one touch key and its utility value can be expanded and raised substantially.

[0177]This invention is applied to the facsimile machine which can transmit, the composite machine provided with such a facsimile function, the duplication function, and the printer function, etc. based on the communications program containing the partner point, and is very preferred.

[Translation done.]

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TECHNICAL FIELD

[Field of the Invention]This invention is applied to the facsimile machine which can transmit, the composite machine provided with such a facsimile function, the duplication function, and the printer function, etc. based on the communications program containing the partner point, and relates to a suitable communication apparatus and correspondence procedure.

[Translation done.]

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PRIOR ART

[Description of the Prior Art]The case where communication apparatus, such as a facsimile machine which can transmit, are used in recent years based on the communications program containing the partner point has increased. The communication apparatus is indicated about this kind of facsimile machine by JP,3-276356,A which is technical literature.

[0003]The communication apparatus 10 by this technical literature has the navigational panel 1 shown in drawing 23. When the liquid crystal display 2 is formed in the navigational panel 1, for example, it registers a communications program, it is made as [display / order / messages, such as a transmission date, air time, a telephone number of an address and the number of addresses / later on]. If a user operates the predetermined input key 3 and the one touch key 4 and it goes to a series of messages, the telephone number of an address, etc. can be added. And an end message with "possible" communication is displayed on the liquid crystal display 2.

[0004]When changing a communications program, when changing the telephone number of the partner point, for example, The message of "whether to change an address" as shown in the liquid crystal display 2 at drawing 24 is displayed, and the key information on "1:addition", "2:deletion", and "a 3:transmitting start" is displayed in one screen. The user is constituted so that selection may be made from these three key information and an addition and deletion of the partner point may be performed.

[0005]By the way, according to the communication apparatus 10 of a conventional system, the communication key registration means which is not illustrated is formed and the telephone number of the partner point, the partner point name, and the communications program are beforehand registered corresponding to the one touch key 4 or the abbreviated key which is not illustrated (henceforth the registration information corresponding to a communications program). And when carrying out FAX transmission processing, the registration information corresponding to the communications program corresponding to the one touch key 4 only at carrying out the depression of the predetermined one touch key 4 is made as [transmit / to the buffer memory for communication-jobs setting out / from a communication key registration means]. Then, if a one-touch timer is started and predetermined time passes, it will be made as [transmit / automatically / to the communication terminal of the partner point / a manuscript picture] (automatic call origination mode).

[0006]Since the registration information corresponding to a communications program can be set up automatically at the time of FAX transmission, it becomes unnecessary to perform the telephone number input of the partner point at the time of FAX transmission, and troublesome key operation called a partner point name input one by one for a user by this composition.

[Translation done.]

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EFFECT OF THE INVENTION

[Effect of the Invention]As explained above, when the one touch key is pressed according to the communication apparatus of this invention, by the communications program containing the partner point registered into the registration means. When automatic call origination mode was not performed and it distinguishes, the control means which stops automatic call origination mode and performs manual call origination mode is established.

[0174]A partner first-move item and the group number can be added to the communications program which contains the partner point beforehand registered into the registration means by this composition, or the contents of that communications program can be changed. Therefore, since communications processing can be performed based on the communications program which compounded the setting-out item beforehand registered into the registration means, and the newly registered setting-out item, the use area of a one touch key and its utility value can be expanded and raised substantially.

[0175]According to the correspondence procedure of this invention, when the one touch key is pressed, and automatic call origination mode was not performed and it is distinguished by the communications program containing the partner point, automatic call origination mode is stopped and it is made to perform manual call origination mode by it.

[0176]A partner first-move item and the group number can be added to the communications program which contains the already registered partner point by this composition, or the contents of that communications program can be changed. Therefore, since communications processing can be performed based on the communications program which compounded the setting-out item registered beforehand and the newly registered setting-out item, the use area of a one touch key and its utility value can be expanded and raised substantially.

[0177]This invention is applied to the facsimile machine which can transmit, the composite machine provided with such a facsimile function, the duplication function, and the printer function, etc. based on the communications program containing the partner point, and is very preferred.

[Translation done.]

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention]However, in the automatic call origination mode by the one touch key of a conventional system, in the setting operation of communication jobs, or it cannot change the contents of the registration information corresponding to the communications program transmitted to the buffer memory which is not illustrated, it is not considered so that the contents can be changed.

[0008]For this reason, the problem that it cannot transmit after having to reset up, or adding [a partner first-move item and] a communications program to the setting-out item registered into the communication key registration means and already changing the registration information corresponding to a communications program into it arises from the beginning.

[0009]Then, this invention is what solved the technical problem mentioned above, and is ****. The purpose enables it to add a partner first-move item and the group number to the communications program containing the partner point carried out, enables it to change the contents of the communications program, and. It is providing the communication apparatus and correspondence procedure which enabled it to expand and improve substantially the use area of a one touch key, and its utility value.

[Translation done.]

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MEANS

[Means for Solving the Problem]In order to solve an aforementioned problem, a communication apparatus of this invention, A communication start key, a one touch key, and a registration means to register a communications program which contains the partner point beforehand, Manual call origination mode which carries out a call origination start at the partner point registered into a registration means by the input of a communication start key, Or a calling means which carries out call origination to a desired partner point device at the partner point based on automatic call origination mode which carries out a call origination start after predetermined time passes since time which specified the partner point without being based on an input of a communication start key, By selecting means which chooses either manual call origination mode by this calling means, or automatic call origination mode, and a communications program containing the partner point registered into a registration means. When it has a control means which distinguishes whether automatic call origination mode is performed and controls a selecting means and the one touch key is pressed, a control means, When automatic call origination mode was not performed and it distinguishes, it controls by a communications program containing the partner point registered into a registration means to stop automatic call origination mode and to perform manual call origination mode.

[0011]When the one touch key is pressed according to the communication apparatus of this invention, by a communications program containing the partner point registered into a registration means. When automatic call origination mode was not performed and it is distinguished by control means, Since automatic call origination mode is stopped and manual call origination mode is performed, a partner first-move item and the group number can be added to a communications program containing the partner point beforehand registered into a registration means, or the contents of the communications program can be changed.

[0012]Therefore, since communications processing can be performed by the input of a communication start key based on a communications program which compounded a setting-out item beforehand registered into a registration means, and a newly registered setting-out item, an use area of a one touch key and its utility value can be expanded and raised substantially.

[0013]Manual call origination mode which carries out the call origination start of the correspondence procedure of this invention at the partner point by communications program containing the partner point beforehand registered corresponding to a one touch key, and the input of a communication start key, Or in a correspondence procedure which communicates with a desired partner point device based on automatic call origination mode which carries out a call origination start at the partner point after predetermined time passes since time which specified the partner point without being based on an input of a communication start key, When the one touch key is pressed, by a communications program containing the partner point registered corresponding to a one touch key. When it distinguished whether automatic call origination mode would be performed, automatic call origination mode was not performed by the communications program and it was distinguished, it was made as [perform / stop automatic call origination mode and / manual call origination mode].

[0014]When according to the correspondence procedure of this invention the one touch key is pressed, and automatic call origination mode was not performed and it is distinguished by communications program containing the partner point registered beforehand, Since automatic call origination mode is stopped and manual call origination mode is performed, a partner first-move item and the group number can be added to a communications program containing the already registered partner point, or the contents of the communications program can be changed.

[0015]Therefore, since communications processing can be performed by the input of a communication start key based on a communications program which compounded a setting-out item registered beforehand and a newly registered setting-out item, an use area of a one touch key and its utility value can be expanded and raised substantially.

[0016]

[Embodiment of the Invention] Hereafter, the communication apparatus and correspondence procedure concerning this invention are explained, referring to drawings.

[0017](1) Communication apparatus drawing 1 as an embodiment is a block diagram showing the example of composition of the composite machine 100 adapting the communication apparatus as each embodiment of this invention.

[0018] In this embodiment, a means to distinguish whether automatic call origination mode (deadline call origination) is performed is formed by the communications program containing the partner point. When the one touch key is pressed, and automatic call origination mode was not performed and it is distinguished, Automatic call origination mode is stopped and it is made to perform manual call origination mode (manual call origination), Enable it to add a partner first-move item and the group number to the communications program containing the partner point registered beforehand, or it enables it to change the contents of the communications program, and enables it to expand and improve substantially the use area of a one touch key, and its utility value.

[0019] The composite machine 100 concerning this invention has a facsimile function which performs group communication based on the communications program containing the partner point corresponding to the alter operation of the one touch key or the abbreviated key. In this group communication, when the transmission partner point of manuscript image data is beforehand summarized per group and specifies that group among related companies, such as the head office, a branch office, or a factory, for example, the manuscript image data of the same contents as the partner point registered into that group is transmitted.

[0020] The composite machine 100 shown in drawing 1 has the control means 11. The control means 19 is connected to this control means 11. The mode change key 23, the communication start key (henceforth a start key) 911, two or more one touch keys 91 ($K_i, i=1-n$), the ten key 92 and abbreviated key 92', the stop/clear button 98 (only henceforth a stop key), etc. are formed in this control means 19. About abbreviated key 92', an abbreviated number is inputted using the ten key 92.

[0021] In this example, a duplication function or a facsimile function is used for a change at least, [in / in the mode change key 23 / the composite machine 100 concerned] The one touch key 91 is used at the time of the automatic call origination mode of the function, and the ten key 92 and abbreviated key 92' are used at the time of the manual call origination mode of the function, The stop key 98 is used when stopping a FAX job, and the start key 911 is used at the time of the recurrence call after stopping the manual call origination mode and automatic call origination mode at the time of a facsimile function.

[0022] The displaying means 21 is connected to this control means 19 via the control means 11, and it is made as [display / the facsimile screen for setting up the copy screen for setting up the operating condition of a duplication function or the operating condition of a facsimile function according to operation of the mode change key 23]. When a facsimile screen is chosen in this example, the group registration picture etc. which summarized the transmission partner point in the group are displayed. On the group registration picture, two or more communications-partner points can be registered as a "group", and a group can be specified as the partner point of a communications program.

[0023] In that case, the transmission partner point can be registered by abbreviated key 92', and the partner point registered as a group can also be registered into it with an abbreviated number. It is made as [make / from the group registration picture / with this / addition of the partner point, deletion, and correction]. Drawing 2 - drawing 14 explain the example of a display screen of the displaying means 21.

[0024] If the manuscript reading means 12 is connected to this control means 11, a duplication function and a facsimile function are chosen and these operating conditions are set up, the picture of a manuscript will be read based on that operating condition, and manuscript image data will be generated. An automatic manuscript reader (scanner) etc. are used for the manuscript reading means 12. The image memory 13 is connected to this manuscript reading means 12 via the control means 11, the copy field 13A is assigned as an object for duplication functions, and the facsimile area 13B is assigned as an object for facsimile functions.

[0025] In this copy field 13A, the manuscript image data read by the manuscript reading means 12 is mainly memorized. In this example, a mass memory area is assigned to the copy field 13A compared with the facsimile area 13B. It is good for the image memory 13 for hold-stores operation to use required DRAM etc.

[0026] The nonvolatile memory 31 as a registration means other than this image memory 13 is connected to the control means 11, and the one touch key registration table, the abbreviated key registration table, and the group registration table are prepared. It is a communications program which includes specification of the partner point corresponding to the alter operation of the one touch key 91 in a one touch key registration table, and the communications program for carrying out picture transmission is registered into a partner point device. It is a communications program which includes specification of the partner point corresponding to the alter operation of the abbreviated number in an abbreviated key registration table, and the communications program for carrying out picture transmission is registered into a partner point device.

[0027]Two or more partner points are registered into a group registration table as a group name. In this example, E²PROM (read-only memory in which the writing and elimination of electric information are possible) etc. are used for the nonvolatile memory 31.

[0028]The calling means 18 realized by software is connected to the control means 11, The manual call origination mode which carries out a call origination start at the partner point registered into the nonvolatile memory 31 by the input of the start key 911, Or after predetermined time passes since the time which specified the last partner point without being based on the input of the start key 911, it is made as [carry out / based on the automatic call origination mode which carries out a call origination start / at the partner point / to a desired partner point device / call origination].

[0029]This calling means 18 has the selector 35 as the buffer memory 32, the manual start means 33, the automatic start means 34, and a selecting means as a memory measure. The communications program containing the partner point is stored temporarily at the buffer memory 32. Information writes in the buffer memory 32 at any time, and the memories (RAM, DRAM, etc.) which can be read are used for it. In addition, the group information etc. of two or more partner points registered on the group registration picture are stored temporarily at the buffer memory 32.

[0030]When the group name is beforehand registered into the nonvolatile memory 31 as the partner point of the communications program corresponding to the alter operation of the one touch key 91 or abbreviated key 92', in this example by the control means 11. The partner point corresponding to the group name is written in the buffer memory 32 as the partner point of a communications program.

[0031]In this manual start means 33, the communications program which contains the partner point from the buffer memory 32 by the depression of the start key 911 is outputted, and the starting command signal for performing manual call origination mode is generated. After the last partner point is specified as the buffer memory 32 in the automatic start means 34, without being based on the input of the start key 911 and predetermined time passes, the communications program which contains the partner point from the buffer memory 32 is outputted, and. The starting command signal for performing automatic call origination mode is generated.

[0032]In the selector 35 connected to this manual start means 33 and the automatic start means 34. When the one touch key 91 is pressed, it operates so that either the manual start means 33 or the automatic start means 34 may be chosen based on the information about the communications program containing the partner point registered into the nonvolatile memory 31.

[0033]In this example, it is made as [choose / the selector 35 / based on the information about the partner point of the one touch key 91 / the manual start means 33 or the automatic start means 34]. For example, when the information about the partner point of the one touch key 91 is not registered into the nonvolatile memory 31, the manual start means 33 is chosen by the selector 35, and when the information about the partner point is registered, the automatic start means 34 is chosen.

[0034]The information concerning the partner point at least corresponding to the one touch key 91 at this example, Beforehand, the information (henceforth call origination mode setting information) which is automatic or sets up manual call origination mode is a case where it registers with the nonvolatile memory 31, and the selector 35, When the call origination mode setting information registered corresponding to the one touch key 91 is manual instructions, the manual start means 33 is chosen, and when call origination mode setting information is automatic setting, it is made as [choose / the automatic start means 34].

[0035]It distinguishes whether automatic call origination mode is performed, and the selector 35 is controlled by the selector 35 which chooses either the manual call origination mode by this calling means 18, or automatic call origination mode, and the communications program containing the partner point registered into the nonvolatile memory 31.

[0036]In the control means 11 connected to this calling means 18. When the one touch key 91 is pressed, when automatic call origination mode was not performed and it distinguishes, it controls by the communications program containing the partner point registered into the nonvolatile memory 31 to stop automatic call origination mode and to perform manual call origination mode. The distinction standard in that case When the registration item of a partner first-move item is blank for example, Or when call origination mode setting information is manual call origination change information, it is a case where a user presses the stop key 98 during automatic call origination mode execution etc., and if automatic call origination mode is stopped in this case and it shifts to manual call origination mode, it will distinguish.

[0037]Therefore, above-mentioned distinction standard information is prepared beforehand, for example, the predetermined item information of the buffer memory 32 is checked after the depression of the one touch key 91, when the distinction standard information and predetermined item information which were set up beforehand are in agreement, automatic call origination mode is stopped and manual call origination mode is performed.

[0038]When are constituted in this way and the one touch key 91 is pressed, and automatic call origination mode was not performed and it is distinguished by the control means, Since automatic call origination mode is stopped and manual call origination mode is performed, a partner first-move item and the group number can be added to the communications program containing the partner point beforehand registered into the nonvolatile memory 31, or the contents of the communications program can be changed.

[0039]Therefore, a communications program which contains the partner point already registered into the nonvolatile memory 31 when the start key 911 is operated, Since the communications program containing the newly registered partner point can be compounded and manual call origination mode or automatic call origination mode can be performed, the use area of the one touch key 91 and its utility value can be expanded and raised substantially.

[0040]A communication reservation management table is prepared for the above-mentioned buffer memory 32, at least, the attribution information (file management information) about the image data at the time of a facsimile and the image data based on the reading means 12 is created by the control means 11, and file management of this attribution information is carried out. For example, the image data inputted into the image memory 13 is managed per page, and items, such as file name No and functional classification #, start time, finish time, the transmission partner point, confidential ID, processing classification, and stages of progress, are stored in two dimensions (table state) for every file.

[0041]In connection with the advancing situation of down stream processing of image data, the attribution information is updated suitably. For example, when the example of composition of the file management information about facsimile reception is shown and functional classification is usually reception, it is updated like ending with the completion of 11:record during 01:reception and received [10:]/record. moreover -- functional classification -- 001: -- it is usually divided into items, such as communication, 010:relay reception, and 011:confidential reception.

[0042]Since the control means 11 is placed between this buffer memory 32 and the displaying means 21 is connected, the group information etc. of two or more partner points read from the buffer memory 32 are displayed by the displaying means 21. Therefore, on the group registration picture of the displaying means 21, two or more communications-partner points can be registered as a "group", or a group can be specified as the partner point of the communications program.

[0043]If the means of communication 14 is connected to the control means 11, a facsimile function is chosen and this operating condition is set up, based on that operating condition, data communications will be performed according to a predetermined communication control procedure. In this example, a manuscript send action is performed by the control means 11 with a predetermined communication procedure based on the starting command signal generated with manual call origination mode or automatic call origination mode.

[0044]For example, when alter operation into which the group name was beforehand registered as the partner point of a communications program, such as the one touch key 91 or the ten key 92, and abbreviated key 92', is made, the control means 11, A manuscript send action is performed with a predetermined communication procedure via a communication line to the communication terminal of the partner point registered into the nonvolatile memory 31 corresponding to the group name.

[0045]A network control unit (network control unit) etc. are provided, and, as for this means of communication 14, connect control, such as call origination from the composite machine 100 concerned, receipt from many and unspecified other parties, restoration, and cut treating, is performed among public networks, such as NTT. For example, ring detection is performed by this unit and the Request to Send in which the other party did call origination is received.

[0046]It is formed in this means of communication 14 by communication MODEM which is not illustrated, and at the time of reception. It restores to the modulating signal transmitted by the public network, and it changes into digital reception picture data, or at the time of transmission, manuscript image data is modulated and it is made as [change / into a modulating signal] so that it may consistent with the frequency band of a public network. The reception picture data received by the means of communication 14 is memorized in the facsimile area 13B.

[0047]The decoding means 15 is connected to this means of communication 14 via the control means 11, and reception picture data is decrypted and elongated at the time of reception. The encoding means 16 is connected to the means of communication 14 via the control means 11, and manuscript image data is compressed and coded at the time of transmission.

[0048]If the image forming means 17 is connected to this control means 11, a duplication function or a facsimile function is chosen and these operating conditions are set up, Based on the manuscript image data memorized to the copy field 13A based on the operating condition, or the reception picture data memorized in the facsimile area 13B, it is made as [form / on a recording material / a picture]. The image forming means 17 has a recording form storage device, a development counter, a photo conductor, a fixing assembly, a cartridge, etc.

which are not illustrated.

[0049]Then, the navigational panel 90 used as an example of the control means 19 is explained. Drawing 2 shows the example of composition of the navigational panel 90, and also it is the figure seen [from]. The angle of one side has the roundish rectangular form, and the navigational panel 90 shown in drawing 2 is attached to the position near this side of the manuscript reading means (not shown) 12 of the copying machine 100 concerned so that it may be easy to operate a user.

[0050]On this navigational panel 90, the mode change key 23, the displaying means 21, the one touch key 91, the stop key 98, and the start key 911 are attached at least. In this example, a liquid crystal display (LCD) is used for the displaying means 21. in addition -- flat-surface display devices, such as PDP and an electroluminescence diode, may be used for the displaying means 21 -- these displays -- the navigational panel 90 -- it is mostly arranged in the center. In order to improve a user's alter operation nature at the displaying means 21, a touch panel is attached on a display screen.

[0051]On the left-hand side of this displaying means 21, the one touch key 91 is arranged at matrix form, and it is made as [perform / special communicate modes, such as one-touch transmission and simultaneous transmissive communication,]. The mode change key 23 is formed in the right-hand side of the displaying means 21, for example, a copy screen and a facsimile screen are displayed on the displaying means 21 according to operation of the mode change key 23.

[0052]On the right-hand side of the displaying means 21, besides the mode change key 23, "1" - "0" of a number, The "*" key, The ten key 92 for telephone number inputs, such as the "#" key, the check button 93, the help button 94, the application button 95, the program button 96, the reset button 97, the stop key 98, the interruption copy button 99, the electric power switch 910, The start button 911 etc. are arranged. "1" On the arrangement area of the ten key 92 of - "3", two light emitting diode LED1 and LED2 are attached, and it is made as [perform / a display which distinguishes a file and an error].

[0053]Then, the display example of the basic waiting screen at the time of the facsimile mode in the above-mentioned composite machine 100 is explained. The telephone number "0426-60-9285" of the other party who the message of "being able to transmit" is displayed [other party], in addition an "additional" key and a number-of-cases viewing area are provided [other party], for example, wants to add, the number "four affairs" of the partner point to add, etc. are displayed on the basic waiting screen P0 shown in drawing 3.

[0054]Under these viewing areas, tags, such as a "destination table", "manuscript setting out", "setting out", a "reservation list", and "manuscript reading", are displayed on the same screen. In this example, if each tag is touched, it is made as [indicate / by gray / (reversing display)]. The tag of a "destination table" is used when changing the basic waiting screen P0 to the destination table waiting screen P1, and the tag of "manuscript setting out" is used when changing a waiting screen to an image quality selection picture. The tag of "setting out" is used when registering all items, and the tag of a "reservation list" is used at the time of a request to print out files of jobs, such as a duplication function, a facsimile function, or a printer function. The tag of "manuscript reading" is used when reading a manuscript at the time of two or more sheet transmission and mixed-loading transmission of an ADF manuscript / platen manuscript, etc.

[0055]This example shows the case where the manuscript setting screen after touching the tag of "manuscript setting out" is displayed. Tags, such as a "destination table", a "ten key", "manuscript setting out", a "reservation list", and "manuscript reading", are displayed on these lower part fields. The example of drawing 3 shows the case where the screen content of the low order hierarchy of the item of "manuscript setting out" after touching the tag of "manuscript setting out" is displayed. Tags, such as "shortening", a "redial", ["on hook"], a "tone", a "pause", "-", and "deletion", are displayed on the item screen of this "manuscript setting out."

[0056]The tag of this "shortening" is used in the telephone number of the partner point at the time of a shortening input, and the tag of a "redial" is used for retransmission of message. A tag "on hook" is used for the line capture at the time of manual transmission/manual reception, and the tag of a "tone" is used at the time of the change of a pulse/tone sound. The tag of a "pause" is used at the time of a halt and dial tone detection, and the tag of "-" is used as SEPARATE TARTAR (high fin) of the dial NO at the time of a dial entry. The tag of "deletion" is used at the time of one-character deletion of destination input data, etc.

[0057]Attribute items, such as "RDAF", "resolution", "image quality", and "concentration", are displayed on these lower part fields, and "cover + both sides", "both sides", "one side", etc. are displayed on the lower part field of "RDAF." A tag a "high definition", ["minute"], and "common" is displayed on the lower part field of "resolution." It is made as [record / in the mode corresponding to each display / on a recording form / a manuscript].

[0058]Tags, such as a "photograph", a "character photograph", and a "character", are displayed on the lower part field of "image quality", and it is made as [set / the image quality of a manuscript]. In the lower part field

of "concentration", a tag, like "it is ["common"] and light" is displayed "deeply", and it is made as [record / with "automatic" and the copy density corresponding to each display / on a recording form / a manuscript].
 [0059]Then, the display example of the destination table waiting screen P1 which is a low order hierarchy of the basic waiting screen P0 is explained. After the destination table waiting screen P1 shown in drawing 4 touches the tag of the "destination table" shown in drawing 3, it is displayed on the displaying means 21. The message of "being able to transmit" is displayed on this destination table waiting screen P1, and tags, such as a "group", "shortening", a "redial", and "registration", are displayed on the screen of the low order hierarchy of a "destination table."

[0060]In this example, concerning the tag of a "group" as a group of "Konica", "Konica Hachioji" is registered into an abbreviated number "01", and "Konica Hino" is registered into "02", The case where the "Konica head office" was registered into "03" and the partner point of the name shown in drawing 4 to an abbreviated number "12", "20", "30", "40", "41", and "42" is registered hereafter is shown. A right-hand side upward arrow and downward arrow are a tag for the page rise down for searching a destination name in this group screen. If a display changes one by one so that a group's destination name may carry out page turning over above, if an upward arrow is touched, and a downward arrow is touched, the group's destination name is made as [change / a display / downward / one by one].

[0061]Then, the display example of the address registration picture P2 which is a low order hierarchy of the destination table waiting screen P1 is explained. After the address registration picture P2 shown in drawing 5 touches the tag of "registration" in the destination table waiting screen shown in drawing 4, it is displayed on the displaying means 21. The message of "address registration being carried out" and "please choose an item" is displayed on this address registration picture P2, and tags, such as "abbreviating registration/edit", "a shortening list / search", "program registration/edit", "a program list", and "group registration and edit", are displayed.

[0062]If ones of these tags is touched, It can change to the display of the abbreviated dialing addition / edit display P3 explained below, the abbreviated dialing list display screen P4, the retrieval picture P5 before a shortening destination name, the group selection picture P6, the group address registration picture P7, the registration picture P8 before a group name, the group address confirmation screen P9, etc. The tag of "returning" is prepared for the lower right side in the same screen of this address registration picture P2, and it is used when returning the address registration picture P2 to the destination table waiting screen P1.

[0063]Then, the display example of the abbreviated dialing addition / edit display P3 which is a low order hierarchy of the address registration picture P2 is explained. After the abbreviated dialing addition / edit display P3 shown in drawing 6 touch the tag of "abbreviating registration/edit" of the address registration picture P2 shown in drawing 5, it is displayed on the displaying means 21.

[0064]The message of "abbreviating registration/edit can do" is displayed on this abbreviated dialing addition / edit display P3, and "99" is displayed as the tag of "the shortening N0", and its abbreviated number. The tag of "the dial N0" is provided in these lower part fields, and the field which displays the telephone number of the partner points, such as "0426-60-9291", is prepared for the right-hand side. Tags, such as an "extension", a "tone", a "pause", "-", and "deletion", are displayed on the lower part field.

[0065]The "name" and the field which displays "Konica Corp. 2 Development Center" etc. as the example are prepared for the lower part field. "furthermore -- a lower part field -- as the tag of a "retrieval character", and its example -- it is " -- etc. -- the field to display being prepared and, "**" which is an initial of a hiragana in the lower part field -- "it is " -- " -- " and "**" -- " -- ", "**", "**", and "**" -- " -- the tag of " and "**" is prepared and the "alphanumeric" tag is prepared for the end.

[0066]If the tag of this "retrieval character" is touched, it can change to a display in the retrieval picture P5 before a shortening destination name explained below. The tag of "registration" and "returning" is prepared for the lower right side in the same screen of this abbreviated dialing addition / edit display P3, and the tag of "registration" is used when registering the telephone number of the partner point with an abbreviated number. The tag of "returning" is used when returning an abbreviated dialing addition / edit display P3 to the address registration picture P2.

[0067]Then, the display example of the abbreviated dialing list display screen P4 which are other low order hierarchies of the destination table waiting screen P1 is explained. After the abbreviated dialing list display screen P4 shown in drawing 7 touches the tag of "the shortening list / search" in the destination table waiting screen shown in drawing 4, it is displayed on the displaying means 21. The message of "a shortening list" and "please choose the shortening N0 and an item" is displayed on this abbreviated dialing list display screen P4, and the tag of "the shortening N0" and the viewing area of the "destination name" which it is going to register with that abbreviated number are prepared.

[0068]"Konica Hachioji" is registered into an abbreviated number "01" in this example, concerning "the

shortening N0", The case where "Konica Hino" was registered into "02", "the Konica development G" was registered into "03", and the partner point of the name shown in drawing 7 to an abbreviated number "04", "05", and "06" is registered hereafter is shown. The abbreviated number "07" is unregistered in this example.

[0069]A right-hand side upward arrow and downward arrow are a tag for the cursor for searching a destination name on the screen of this the "shortening N0." If an upward arrow is touched, cursor will move upward in a destination name top, and if a downward arrow is touched, it is made as [move / downward / in a destination name top / cursor]. The tag for a page rise down is provided in the lower left side besides the tag for these cursor, and it is made as [carry out / the display screen of a "destination name" / page turning over]. The tag of "edit", "deletion", and "search" is prepared next to it.

[0070]The tag of this "edit" is used at the time of correction of the contents of abbreviating registration selected with cursor, the tag of "deletion" is used at the time of deletion of the contents of abbreviating registration selected with cursor, and it is the same character as the tag of a "retrieval character", and the tag of "search" is used when changing to the display of the retrieval picture P5 before a shortening destination name. The tag of "returning" is prepared, and when returning the abbreviated dialing list display screen P4 to the address point waiting screen P1, it is used next to the tag of this "search." In this example, Konica 2 open [of an abbreviated number "03" / G] is chosen, and the case where a gray indication of that portion is given is shown.

[0071]Then, the display example of the retrieval picture P5 before a shortening destination name which is a low order hierarchy of the abbreviated dialing list display screen P4 is explained. After the retrieval picture P5 before a shortening destination name shown in drawing 8 touches the tag of "search" of the abbreviated dialing list display screen P4 shown in drawing 7, it is displayed on the displaying means 21.

[0072]It is displayed on the retrieval picture P5 before this shortening destination name by the message of "shortening name search" and "please choose a retrieval character and an item", and in that lower part field. "**" which is an initial of a hiragana -- "it is " -- "-- " and "**" -- "-- ", "**", "**", and "**" -- "-- the tag of " and "**" is prepared and the "alphanumeric" tag is prepared for the end. "Konica Hachioji" is registered into an abbreviated number "01" in this lower part field, concerning the display screen of a "destination name", "Konica Hino" is registered into "02" and the "Konica head office" is registered into "03", The case where "the Konica 2 development G" was registered into the abbreviated number "12", and the partner point of the name shown in drawing 8 to "20", "30", "50", "89", "99", "*11", and "*33" is registered hereafter is shown. "this example -- a hiragana -- it is " -- the "Konica 2 development G" of an abbreviated number "12" is chosen, and by having touched the tag shows the case where a gray indication of that tag portion is given.

[0073]The tag for a page rise down is provided in the lower left side even in the retrieval picture P5 before this shortening destination name, in addition the tag of "edit", "deletion", and "returning" is prepared. This tag of "returning" is used when returning the retrieval picture P5 before a shortening destination name to the abbreviated dialing list display screen P4.

[0074]Then, the display example of the group selection picture P6 which is a low order hierarchy of the address registration picture P2 is explained. The group selection picture P6 shown in drawing 9 accomplishes the principal part of a group registration picture, and after it touches the tag of "group registration / edit" of the address registration picture P2 shown in drawing 5, it is displayed on the displaying means 21.

[0075]this group selection picture P6 -- "-- registration [of a group dial]/-- it can edit -- " -- and -- "please choose an item with a group" -- a message is displayed and the item of "N0", a "group name", and an "address" is displayed. About this tag of "N0", consecutive-numbers "01" - "08" is displayed, and it indicates it is the "Konica Corp. head office", "Hachioji", ["unregistered"], and ["unregistered"] etc. about a "group name" corresponding to those consecutive numbers, for example.

[0076]About this "address", the contents of group registration of an abbreviated number "01", "03", "44", and "*20" are displayed corresponding to the "Konica Corp. head office", and the contents of abbreviated number "01" "32" "44" "*99" group registration are displayed corresponding to "Hachioji." A right-hand side upward arrow and downward arrow are a tag for the cursor for searching the address to a group name in this group screen. If an upward arrow is touched, the cursor will slide a group name and address top upward, and if a downward arrow is touched, it is made as [slide / a group name and address top / the cursor / downward]. In this example, it is indicated by gray and the cursor portion is made legible.

[0077]The tag of "address registration", "name registration", "an address check", and "returning" is provided in the lower part field of this display screen. The tag of "address registration" is used when carrying out group address registration, and the tag of "name registration" is used when changing to a name input screen, edit of the group name selected with cursor, and. The tag of an "address check" is used when checking a group address. The tag of "returning" is used when returning the group selection picture P6 to the address registration picture P2.

[0078]In this example, if the tag of "address registration" is touched, it is made as [change / to the group

address registration picture P7 / a display]. In this example, the case where cursor is chosen is shown in the "unregistered" tag, and it is made as [check / by choosing the tag of an "address check" / the details of a group address].

[0079]Then, the display example of the group address registration picture P7 which is a low order hierarchy of the group selection picture P6 is explained. After the group address registration picture P7 shown in drawing 10 touches the tag of "address registration" of the group selection picture P6 shown in drawing 9, it is displayed on the displaying means 21. It is made as [register / at the maximum / only the shortening N0 can be registered into a group dial in this example, and / the address of 200 games].

[0080]this group address registration picture P7 -- for example -- " -- the group 3 (a name -- : -- unregistered -- / -- an address -- a number -- four -- registering -- an address -- choosing -- give -- " -- a message is displayed and the item of the "order display of N0" and "name search" is displayed.) The tag of "N0 an order display" is used when displaying a group address in order of consecutive numbers, and the tag of "name search" is used when searching a group's destination name.

[0081]It is a tag for the shortcut at the time of "00-", "50-", "*00-", and "*50-" being displayed on the lower part field of this item, and jumping to a specification abbreviated number.

[0082]the lower part field for these shortcut -- as the group's 3 address -- consecutive-numbers "01" - " -- 12" -- "Konica Hachioji", "Konica Hino", and the "Konica head office" ... "the Konica 2 development G" etc. is displayed.

[0083]The upward arrow and downward arrow by the side of the lower left are a tag for the page rise down for searching a group address in this group address registration picture P7. If it is displayed so that page turning over of the group's destination name may be carried out above, if an upward arrow is touched, and a downward arrow is touched, a display will be changed so that page turning over of the group's destination name may be carried out down.

[0084]The tag of "registration" and "returning" is provided in the right area of the tag for this page rise down. "Registration" is used when carrying out group address registration, and when "it returns" returns the group address registration picture P7 to the group selection picture P6, it is used. In this example, after touching the tag of "N0 an order display", "Konica Hachioji", "Konica Hino", the "Konica head office", and the "Konica 2 development G" are chosen as the group's 3 address, and the case where that abbreviated number "01", "02", "03", and "12" are registered is shown. A gray indication of each tag in which it was touched is given.

[0085]Then, the display example of the registration picture P8 before a group name which is a low order hierarchy of the group address registration picture P7 is explained. After the registration picture P8 before a group name shown in drawing 10 touches the tag of "name search" of the group address registration picture P7 shown in the drawing 10, it is displayed on the displaying means 21.

[0086]The same message as the above-mentioned group address registration picture P7 is displayed on the registration picture P8 before this group name, and a gray indication of the item of "name search" is given. the "lower part field of this item -- the initial "**" of a hiragana -- it is " -- " -- " and "**" -- " -- ", "**", "**", and "**" -- " -- the tag of " and "**" is prepared and the "alphanumeric" tag is prepared for that end. "this example -- it is " -- if a tag is touched -- "Konica Hachioji" of an abbreviated number "01". A gray indication of the tag of the "Konica head office" of "Konica Hino" of "02" and "03" and the "Konica 2 development G" of "12" is given, and it is made as [search / the destination name of four affairs registered into the group 3].

[0087]The upward arrow and downward arrow by the side of the lower left are a tag for the page rise down for searching a group name front in the registration picture P8 before this group name. If it is displayed so that page turning over of the group's name may be carried out above, if an upward arrow is touched, and a downward arrow is touched, it is made as [change / so that page turning over of the group's name may be carried out down / a display].

[0088]The tag of "registration" and "returning" is provided in the right area of the tag for this page rise down. "Registration" is used when registering before a group name, and when "it returns" returns the registration picture P8 before a group name to the group address registration picture P7, it is used. In this example, even when the tag of "the order display of N0" is touched, the registration picture P8 before a group name can be returned to the group address registration picture P7.

[0089]Then, the display example of the group address confirmation screen P9 which is a low order hierarchy of the group selection picture P6 is explained. After the group address confirmation screen P9 shown in drawing 11 touches the tag of "an address check" of the group selection picture P6 shown in drawing 9, it is displayed on the displaying means 21.

[0090]this group address confirmation screen P9 -- for example -- " -- the group 3 (a name -- : -- unregistered -- / -- an address -- a number -- seven -- registration -- the contents -- it can check -- " -- a message is displayed and the item of the "shortening N0" and a "destination name" is displayed.) For example, a gray

indication of the Konica Corp. 2 open center of the abbreviated number "03" to which it pointed with the tag for cursor is given, and it is made as [check / it / registering with the group 3]. The tag for a page rise down is provided in the lower left side besides the tag for these cursor, and it is made as [carry out / the screen of "the shortening N0" / page turning over].

[0091]The tag of "deletion" and "returning" is provided in the right-hand side of the tag for this page rise down. The tag of this "deletion" is used when deleting a group's name, and it is used when "it returns" returns the group address confirmation screen P9 to the group selection picture P6.

[0092]Next, the operation instances at the time of the addition of the address of the group concerning the facsimile function of the composite machine 100 adapting the 1st composite machine as an embodiment, correction, and deletion are explained. In this example, the mode change key 23 is already pressed and the case where the basic waiting screen (manuscript setting out) P0 is displayed on the displaying means 21 is assumed.

[0093]** When adding a group's address, display the destination table waiting screen P1 as touched the tag of the "destination table" of the basic waiting screen P0 shown in drawing 3 first and shown in drawing 4 on the displaying means 21. Then, the tag of "registration" in the destination table waiting screen P1 is touched, and the address registration picture P2 as shown in drawing 5 is displayed on the displaying means 21.

[0094]Then, the tag of "the group registration / edit" in the address registration picture P2 is touched, and the group selection picture P6 shown in drawing 9 is displayed on the displaying means 21. And the unregistered field by which it was indicated by gray in the group selection picture P6 is chosen. Then, the tag of "address registration" in the group selection picture P6 is touched, and the group address registration picture P7 shown in drawing 10 is displayed on the displaying means 21.

[0095]Here, if the tag of "name search" in the group address registration picture P7 is touched in order to, choose the address registered into the group 3 for example, the registration picture P8 before a group name will be displayed on the displaying means 21. in the registration picture P8 before a group name, the "Konica head office" is displayed to "Konica Hino" and "03" to "Konica Hachioji" and "02" to an abbreviated number "01" "ABC" is displayed to ***** "33" below. "this example -- it is " -- a touch of a tag will give a gray indication of the "Konica head office" of "Konica Hino" of "Konica Hachioji" of an abbreviated number "01", and "02", and "03", and Konica 2 open [of "12" / G] as a candidate in front of a group name, for example.

[0096]If the tag of "registration" is touched in the group address registration picture P7, a display will be changed to the group selection picture P6. Then, if the tag of an "address check" is touched, it can shift to drawing 11, the "Konica head office" of "Konica Hino" of "Konica Hachioji" of an abbreviated number "01" and "02" and "03" and Konica 2 open [of "12" / G] can be added, and it can be checked in the group address registration picture P7.

[0097]** Display the address registration picture P2 as shown in drawing 4 mentioned above when a group's address was corrected on the displaying means 21. Then, the tag of "the abbreviating registration/edit" in the address registration picture P2 is touched, and the abbreviated dialing addition / edit display P3 shown in drawing 6 are displayed on the displaying means 21. "and -- specifying "99" as "the shortening N0" and inputting "0426-60-9291" as a new number to be dialed using the ten key 92 -- a "retrieval character" -- it is " -- a tag is chosen and the name "Konica Corp. 2 Development Center" etc. are reregistered. Thereby, a group's address is correctable.

[0098]** Display the address registration picture P2 as shown in drawing 5 mentioned above when a group's address was deleted on the displaying means 21. Then, the tag of "the shortening list / search" in the address registration picture P2 is touched, and the abbreviated dialing list display screen P4 shown in drawing 7 is displayed on the displaying means 21. And on the abbreviated dialing list display screen P4, he would like to delete the tag for cursor, for example, it is set by "Konica 2 open one G" of an abbreviated number "03." Since a gray indication of the portion of this cursor is given, if the tag of "deletion" in that same screen is touched, The address of the portion by which it was indicated by gray can be deleted, and it can delete "Konica 2 open one G" of the abbreviated number "03" from the tag of "address registration" in the group selection picture P6 after that.

[0099]Thus, since the display screen of a layered structure is prepared beforehand according to the composite machine 100 adapting the composite machine as a 1st embodiment, In the group selection picture of the displaying means 21, two or more partner points are registered as a group, and can specify a group as the partner point of a communications program, and addition of the partner point, deletion, and correction can be performed from the group selection picture. Therefore, it can face setting up the partner point of a communications program, and the alter operation nature of key information can be raised.

[0100]According to this embodiment, since key information, including "1:addition", "2:deletion", "a 3:transmitting start", etc., is not displayed in one screen like a conventional system, a possibility that a user may operate selection of key information accidentally disappears. Therefore, when changing the partner point of a

communications program, a possibility of deleting the telephone number of the existing partner point, or making a mistake to a communications program and registering an address disappears.

[0101]Then, the one-touch program registration screen of the composite machine 100 is explained. Drawing 12 is a figure showing the example of display transition of the one-touch program registration screen of the composite machine 100. Drawing 13 is a figure showing the display example and its example of transition of its program registration / edit display P11, and P12. Drawing 14 shows other display examples and examples of transition.

[0102]In this example, when the tag of "program registration / edit" or "a program list" is chosen in the address registration picture P2 of a 1st embodiment, the screen for performing registration and edit to a one-touch program key is displayed on the displaying means 21 shown in drawing 2.

[0103]For example, if the tag of a "program list" is touched in the address registration picture P2 shown in drawing 12, Even when the program list display screen P10 is displayed on the displaying means 21 and touches the tag of "program registration/edit" in the address registration picture P2, it is made as [display / on the displaying means 21 / the program list display screen P10]. The message of "a program registration list" and "please choose an item" is displayed on this program list display screen P10, and items, such as a tag of "NO", "address setting out", "manuscript setting out", "application setting out", are prepared.

[0104]The "Konica Corp. head office" is registered into an abbreviated number "01" in this example, concerning the list display of the contents of registration, "Konica Corp. Hachioji" is registered into "02", a "Konica Corp. 2 open center" is registered into "03", and the case of being unregistered is shown to the following abbreviated numbers "04", "05", and "06." The "Konica Corp. 2 open center" of an abbreviated number "03" is chosen in this example, a gray indication of that portion is given, and that abbreviated number "03" turns into a one touch number.

[0105]A right-hand side upward arrow and downward arrow are a tag for the cursor for searching a destination name on the screen of this "address setting out." If an upward arrow is touched, cursor will move upward in a destination name top, and if a downward arrow is touched, it is made as [move / downward / in a destination name top / cursor]. The tag for a page rise down is provided in the lower left side besides the tag for these cursor, and it is made as [carry out / the screen of "address setting out" / page turning over]. The tag of a "check", "edit", "deletion", and "returning" is prepared next to it.

[0106]The tag of this "check" is used, when changing an address setting detail to a check screen, or when checking the details of an address. The tag of "edit" is used at the time of correction of the address setting detail selected with cursor, the tag of "deletion" is used at the time of deletion of the address setting detail selected with cursor, and the tag of "returning" is used when returning to the last screen. In this example, if the tag of "returning" is touched, a display will come to return from the program list display screen P10 to the address registration picture P2.

[0107]Then, the display example of the program registration screen P11 which is a low order hierarchy of the program list display screen P10 is explained. After the program registration screen P11 shown in drawing 13 touches the tag of "edit" of the program list display screen P10 shown in drawing 12, it is displayed on the displaying means 21.

[0108]The message of "program registration/edit being able to do" and "please set up an item" up is displayed on this program registration screen P11, and "01" is displayed as the tag of "the program NO", and its abbreviated number. The tag of "the address NO" is provided in these lower part fields, and the field which displays the telephone number of the partner points, such as "0426-60-9291", is prepared for the right-hand side. Tags, such as an "extension", "shortening", a "group", a "tone", a "pause", "-", and "deletion", are displayed on the lower part field. The tag of a "group" is used when registering a group as an address. It is as a 1st embodiment having explained an "extension", "shortening", a "tone", a "pause", "-", and "deletion."

[0109]The tag of a "name" and the field which displays "Konica Corp. 2 Development Center" etc. as the example are prepared for the lower part field. The tag of "manuscript setting out" and tags, such as "application communicate mode setting out", are prepared for the lower part field.

[0110]If the tags of this "manuscript setting out" are the same contents as "manuscript setting out" explained in the basic waiting screen (manuscript setting out) P0 of a 1st embodiment and the tag of this "manuscript setting out" is touched, Attributes, such as "RDAF", "resolution", "image quality", and "concentration", are displayed, and a manuscript can be set up in the mode corresponding to each display.

[0111]"The tag of application communicate mode setting-out" is "2inch1 transmission," Page continuous-shooting transmission, It is used when performing special transmission methods, such as "frame deleting transmission", "mixed-loading manuscript transmission", "timer transmission", "polling transmission", "manuscript number-of-sheets setting-out transmission", "transoceanic communication mode transmission", or "ECM OFF transmission." A gray indication of the touched item is given also in this example.

[0112]If the tag of a "check", "registration", and "returning" is prepared for these lower part fields and the tag

of "registration" or "returning" is touched, it is made as [return / to the address registration picture P2 / a display]. Therefore, the address registration picture P2, the program list display screen P10, and the program registration screen P11 are displayed on the displaying means 21 so that it may indicate by circulation (rotation). [0113] Then, the display example of the program registration screen P12 concerning manuscript setting out which is a low order hierarchy of the program registration screen P11 is explained. After the program registration screen P12 concerning manuscript setting out shown in drawing 13 touches the tag of "manuscript setting out" of the program registration screen P11 shown in the figure, it is displayed on the displaying means 21.

[0114] Although the same message as **** is displayed on this program registration screen P12, the contents of the tag of "manuscript setting out" are displayed. Tags, such as "cover + both sides", "both sides", and "one side", are displayed on the lower part field of "RDAF." A tag, like "it is a "high definition", ["minute"], and common" is displayed on the lower part field of "resolution." It is made as [record / in the mode corresponding to each display / on a recording form / a manuscript].

[0115] Tags, such as a "photograph", a "character photograph", and a "character", are displayed on the lower part field of this "image quality", and it is made as [set / the image quality of a manuscript]. In the lower part field of "concentration", a tag, like "it is ["common"] and light" is displayed "deeply", and it is made as [record / with "automatic" and the copy density corresponding to each display / on a recording form / a manuscript]. Also from this one-touch program registration screen, a manuscript can be set up in the mode corresponding to each display.

[0116] The tag of "cancellation" and "setting out" is prepared for the lower right side of this program registration screen P12. If the tag of "cancellation" or "setting out" is touched, it is made as [return / to the program registration screen P11 in front of / of the program registration screen P12 / one / a display].

[0117] Then, the display example of the program registration screen P13 concerning application communicate mode setting out which is other low order hierarchies of the program registration screen P11 is explained. After the program registration screen P13 concerning application communicate mode setting out shown in drawing 14 touches the tag of "application communicate mode setting out" of the program registration screen P11 shown in the figure, it is displayed on the displaying means 21.

[0118] The message of "program registration/edit being able to do" and "please set up application communicate mode" up is displayed on this program registration screen P13. Tags, such as "2-inch 1 transmission", "page continuous-shooting transmission", "frame deleting transmission", "mixed-loading manuscript transmission", "timer transmission", "polling transmission", "manuscript number-of-sheets setting-out transmission", "transoceanic communication mode transmission", or "ECM OFF transmission", are displayed. The tag of "2-inch 1 transmission" is used when setting up turning on and off of 2-inch the 1 transmission which packs two manuscripts into one and transmits, and the tag of "page continuous-shooting transmission" is used when changing to the selection picture of a page continuous shooting mode.

[0119] The tag of this "frame deleting transmission" is used when changing to the selection picture of frame deleting transmission of a manuscript, and the tag of "mixed-loading manuscript transmission" is used when setting up turning on and off in the mixed-loading manuscript mode which mixes the manuscript of various sizes together and transmits. The tag of "timer transmission" is used when changing to a communication start time setting screen, and the tag of "polling transmission" is used when setting up turning on and off of polling receiving mode. The tag of "manuscript number-of-sheets setting-out transmission" is used when changing to a manuscript number-of-sheets setting screen, and the tag of "transoceanic communication mode transmission" is used when setting up turning on and off in transoceanic communication mode. The tag of "ECM OFF transmission" is used when turning on and off of ECM sets up.

[0120] In this example, it is touched in the tag of "2-inch 1 transmission", and the case where a gray indication of that portion is given is shown. The tag of "cancellation" and "setting out" is prepared for the lower right side of this program registration screen P14. If the tag of "cancellation" or "setting out" is touched, it is made as [return / to the program registration screen P11 / from the program registration screen P14 / a display].

[0121] (2) Example drawing 15 of registration - drawing 17 of a communications program of the composite machine 100 are a flow chart which shows the example of registration of the communications program of the composite machine 100. Also in this example, the mode change key 23 is already pressed and the case where the basic waiting screen (manuscript setting out) P0 is displayed on the displaying means 21 is assumed. And it is a case where a display changes from the basic waiting screen P0 in order of the address display waiting screen P1, the address registration picture P2, and the program list display screen P10. For example, the "Konica Corp. 2 open center" of an abbreviated number "03" is explained to a group's address about one-touch and the case where program registration is carried out.

[0122] It waits to push the tag (henceforth a registering button) of "registration" for example, on the address display waiting screen P1 first at Step A1 of the flow chart shown in drawing 15 on the assumption that this.

When a registering button is pushed by the user, The address registration picture P2 shown in drawing 5 from the address display waiting screen P1 shown in drawing 4 is displayed, and the program list display screen P10 shown in drawing 12 is expressed to the displaying means 21 as the same effect as having touched the tag of "program registration/edit" in this address registration picture P2. And it shifts to Step A2 and the program NO is cleared on the program list display screen P10. For example, the "Konica Corp. 2 open center" of the one TAITCHI number "03" by which it was indicated by gray on the program registration list display screen P10 is chosen.

[0123]Then, the program registration screen P11 which shifted to step A3 and was shown in drawing 13 is displayed on the displaying means 21, and the program NO is displayed. And the control means 11 waits to press the ten key 92 by step A4. It waits to shift to step A5 and for the tag (henceforth an address button) of an "address" to be pushed on the program registration screen P11 by him, for example, when the ten keys 92, such as "0426-60-9291", are pressed by the user. When an address button is pushed by the user, it shifts to Step A6, and the program NO data concerned is read from the nonvolatile memory 31, and is set to the buffer memory 32.

[0124]Then, it shifts to Step A7 and program NO data is displayed on the displaying means 21. And it waits to push the ten key 92 or an "address" related button at Step A8. When an "address" related button etc. are pushed by the user, it shifts to step A9 of the flow chart shown in drawing 16, and an address is displayed on the displaying means 21. For example, in program registration / edit display P11, "0426-60-9291" is registered by "01" as the program NO, and is registered as the address NO.

[0125]Then, it is distinguished whether it shifted to Step A10 and the tag of the "name" was pushed. When the tag of a "name" is pushed by the user, the name input screen which shifts to Step A11 and is not illustrated from program registration / edit display P11 by the displaying means 21 changes (resemblance : refer to [Name retrieval picture P8] drawing 8). Here, a "Konica Corp. 2 open center" is inputted about a name. And it waits to direct "cancellation" or "setting out" at Step A12 in a name input screen. Here, in "cancellation", it returns to Step A10. When the tag of a "name" is not pushed at this step A10, and in "setting up" up a name at Step A12, it shifts to Step A13. By "setting out" of this name, or "cancellation", a display changes from a name input screen to the program registration list display screen P10 by the displaying means 21.

[0126]At Step A13, it is distinguished on the program registration list display screen P10 whether the tag of "manuscript setting out" was pushed. When the tag of "manuscript setting out" is pushed by the user, the program registration screen P12 which shifted to Step A14 and was shown in drawing 13 is displayed by the displaying means 21, and a manuscript setting screen is displayed on this registration picture P12.

[0127]And it waits to direct "cancellation" or "setting out" in a manuscript setting screen about setting-out items, such as "RDAF", "resolution", "image quality", and "concentration", at Step A15. Here, in "cancellation", it returns to Step A13. When the tag of "manuscript setting out" is not pushed at this step A13, And when "setting up" up about setting-out items, such as "RDAF", "resolution", "image quality", and "concentration", at Step A15, it shifts to Step A16 and the displaying means 21 changes in a display from the program registration screen P12 to the program registration list display screen P10.

[0128]At Step A16, it is distinguished by the control means 11 whether the tag of "setting out" of application communicate mode was pushed on the program registration list display screen P10. When the tag of "setting out" of application communicate mode is pushed by the user, it shifts to Step A17, the program registration screen P13 is displayed by the displaying means 21, and the setting screen of application communicate mode is displayed in the registration picture P13.

[0129]By Step A18, on the program registration screen P13 And "2-inch 1 transmission", It waits to direct "cancellation" or "setting out" about setting-out items, such as "page continuous-shooting transmission", "frame deleting transmission", "mixed-loading manuscript transmission", "timer transmission", "polling transmission", "manuscript number-of-sheets setting-out transmission", "transoceanic communication mode transmission", or "ECM OFF transmission." Here, in "cancellation", it returns to Step A16. When the tag of "setting out" of application communicate mode is not pushed at this step A16, At Step A18, and "2-inch 1 transmission", "page continuous-shooting transmission", "frame deleting transmission", "Mixed-loading manuscript transmission", "timer transmission", "polling transmission", "manuscript number-of-sheets setting-out transmission", When "setting up" up about setting-out items, such as "transoceanic communication mode transmission" or "ECM OFF transmission", it shifts to Step A19 of the flow chart shown in drawing 17, and the program registration list display screen P10 changes in a display from the program registration screen P13 by the displaying means 21.

[0130]At this step A19, it is distinguished whether the tag of the "check" was pushed on the program registration list display screen P10. When the tag of a "check" is pushed by the user, it shifts to Step A20 and the displaying means 21 changes on a check screen. At this time, the contents of program registration can be checked also with the check button 93 of the navigational panel 90.

[0131]And the tag of "returning" is pushed on the check screen by Step A21, and it is distinguished whether it is

****. Here, when the tag of "returning" is pushed, it returns to Step A19. When the tag of a "check" is not pushed at this step A19, and when the tag of "returning" is not pushed at Step A21, it shifts to Step A22, and the program registration screen P11 changes in a display from the program registration list display screen P10 by the displaying means 21.

[0132]At this step A22, it waits to push a registering button on the program registration screen P11. Here, when a registering button is pushed, it shifts to Step A23. Registration processing is carried out at this step A23. The data of one-touch and the "Konica Corp. 2 open center" of the abbreviated number "03" by which program registration was carried out is memorized by the nonvolatile memory 31 here at a group's address.

[0133]Then, it shifts to Step A24, the tag of "returning" is pushed on the program registration screen P11, and it is supervised whether it is ****. Here, when the tag of "returning" is pushed, it shifts to Step A25 and front screens, such as the address registration picture P2, the address display waiting screen P1, and the basic waiting screen P0, change in a display from the program registration list display screen P10.

[0134]Therefore, in one-touch, the case where program registration is carried out, etc., since the user can choose an "address" as an "address" by the one touch key 91, to it the group N0, Speedy moreover, operating conditions, such as a duplication function and a facsimile function, can be set up the optimal compared with a conventional system about each mode.

[0135](3) The 1st example drawing 18 of operation at the time of the FAX transmission of the composite machine 100 is a flow chart which shows the 1st example of operation at the time of the FAX transmission of the composite machine 100 adapting the correspondence procedure as an embodiment. In this example, when the stop key 98 is pressed during execution in the automatic call origination mode by the one touch key 91, it is made as [shift / to manual call origination mode / automatically]. And manual call origination mode by the ten key 92 is performed at Steps B1-B3, Step B7, and Step B15 of the flow chart shown in drawing 18, Manual call origination mode by abbreviated key 92' is performed at the step B4 - B6, Step B7, and Step B15, and automatic call origination mode by the one touch key 91 is performed at the steps B8-B12, Step B14, and Step B15.

[0136]In the manual call origination mode by the ten key 92, it is detected by the control means 11 whether the ten key 92 was first pressed at Step B1 of the flow chart shown in drawing 15 on the assumption that this. When this ten key 92 is pressed by the user, it shifts to step B-2. In step B-2, it waits to all input the telephone number of the partner point. When the telephone number of the partner point is all inputted, it shifts to Step B3 and an address indication of the telephone number of the partner point is given at the displaying means 21. The basic waiting screen P0 or the destination table waiting screen P1 shown in drawing 3 is displayed on the displaying means 21 in this case.

[0137]Then, it shifts to Step B7 and the control means 11 waits for the start key 911 to be pressed by the user. When the start key 911 is pressed, it shifts to Step B15 and FAX transmission processing is performed. In this case, in the means of communication 14 which inputted the starting command signal generated with manual call origination mode, a manuscript send action is performed to the communication terminal of the partner point via a communication line with a predetermined communication procedure. Thereby, a manuscript picture can be transmitted to a partner point device with the manual call origination mode by the ten key 92.

[0138]In the manual call origination mode by abbreviated key 92', since the ten key 92 is not pressed at Step B1 of the flow chart shown in drawing 18, it is detected by the control means 11 whether it shifted to step B4 and abbreviated key 92' was pushed. When abbreviated key 92' is pushed, it shifts to step B5. In step B5, the counterpart point registered into the nonvolatile memory 31 is set to the buffer memory 32 by the control means 11.

[0139]Then, it shifts to step B6 and an address indication of the telephone number of the partner point is given at the displaying means 21. The destination table waiting screen P1 etc. which were shown in drawing 3 are displayed on the displaying means 21 in this case. And it waits to shift to Step B7 and to press the start key 911. When the start key 911 is pressed, it shifts to Step B15 and FAX transmission processing is performed. Also in this case, a manuscript send action is performed to the communication terminal of the partner point via a communication line with a predetermined communication procedure by the means of communication 14 which inputted the starting command signal by manual call origination mode. Thereby, a manuscript picture can be transmitted to a partner point device with the manual call origination mode by abbreviated key 92'.

[0140]In the automatic call origination mode by the one touch key 91, since abbreviated key 92' is not pushed by step B4 of the flow chart shown in drawing 18, it is detected by the control means 11 whether it shifted to step B4 and the one touch key 91 was pressed. When the one touch key 91 is pressed, it shifts to Step B9. At Step B9, the counterpart point registered into the nonvolatile memory 31 is set to the buffer memory 32 by the control means 11. Then, it shifts to Step B10 and an address indication of the telephone number of the partner point is given at the displaying means 21. The destination table waiting screen P1 etc. which were shown in drawing 3 are displayed on the displaying means 21 in this case.

[0141]And it shifts to Step B11 and a one-touch timer is started. It is for this timer set transmitting a manuscript picture automatically to an other party device after fixed time lapse. Then, it is supervised whether the stop key 98 was pressed by the control means 11 at Step B12. When the deadline of is passed without pressing the stop key 98, it shifts to Step B15 and FAX transmission processing is performed. In this case, a manuscript send action is performed to the communication terminal of the partner point via a communication line with a predetermined communication procedure by the means of communication 14 which inputted the starting command signal generated with automatic call origination mode. Thereby, a manuscript picture can be transmitted to a partner point device with the automatic call origination mode by the one touch key 91.

[0142]And when the stop key 98 is pressed at Step B12, it shifts to Step B13, and a memory content is cleared by the buffer memory 32, automatic call origination mode is stopped, and it returns to Step B1, and shifts to manual call origination mode. In this case, the destination table waiting screen P1 etc. which were shown in drawing 3 are displayed on the displaying means 21, and a new partner first-move item and the group number are added to the communications program containing the partner point already registered into the nonvolatile memory 31 on this screen by the user, or the contents of that communications program are changed.

Subsequent key input operations and data processing are as having mentioned above.

[0143]By thus, the thing for which the stop key 98 was pressed at Step B12 after the one touch key 91 was pressed at Step B8 of the flow chart shown in drawing 18 according to the composite machine 100 adapting the correspondence procedure as this embodiment. When automatic call origination mode was not performed by the control means 11 and it is distinguished by the communications program containing the partner point registered beforehand, automatic call origination mode is stopped by Step B13, it returns to Step B1, and manual call origination mode is performed by it.

[0144]Therefore, the destination table waiting screen P1 etc. are displayed on the displaying means 21 in Step B3 and step B6 of the flow chart, a partner first-move item and the group number can be added to the communications program containing the already registered partner point, or the contents of the communications program can be changed. Since a call origination start can be carried out with manual call origination mode by this at the partner point newly registered by the input of the start key 911, the use area of the one touch key 91 and its utility value can be expanded and raised substantially.

[0145](4) The 2nd example drawing 19 of operation and drawing 20 at the time of the FAX transmission of the composite machine 100 are a flow chart which shows the example of operation at the time of two or more address transmission by the one touch key 91 of the composite machine 100 (the 1, 2).

[0146]It is a case where automatic call origination mode by the one touch key 91 is performed in this example, It is a case where one-touch program registration items include an unset up item, The setting-out item which stopped automatic call origination mode, shifted to manual call origination mode, registered the unset up item, and was beforehand registered into the nonvolatile memory 32 after the one touch key 91 was pressed, The case where transmitting processing is performed based on the communications program which compounded the newly registered setting-out item is assumed.

[0147]In this example, automatic call origination mode by the usual one touch key 91 is performed at Step C1 of the flow chart shown in drawing 19 - Step C10, and Step C14. And when "setting out" of for example, two or more addresses is not made by the one-touch program registration item, perform automatic call origination mode to the middle at the step C1 - Step C7, but. Automatic call origination mode is stopped by Step C11, it shifts to manual call origination mode, the case where manual call origination mode is performed at Step C12 - Step C14 after that is made into an example, and it explains.

[0148]The control means 11 waits to press the one touch key 91 first at Step C1 of the flow chart shown in drawing 19 on the assumption that this. When the one touch key 91 is pressed by the user, it shifts to Step C2 and it is distinguished whether manuscript size is [*****] under detection now. Since it is assumed that manuscript reading which was shown in drawing 1 and which is depended reading means 12 is already performed, and manual call origination mode is performed when manuscript size is under detection, it shifts to Step C11 of the flow chart shown in drawing 20.

[0149]When it is not [manuscript size] under detection at Step C2, it shifts to Step C3, the start key 911 is pressed, and it is detected by the mere control means 11. Since it is not in automatic call origination mode and manual call origination mode is performed when the start key 911 is pressed, it shifts to Step C11. Therefore, when the start key 911 is not pressed at Step C3, it shifts to Step C4 and it is distinguished during manuscript reading whether manuscript paper is jam (paper feeding mistake) ****. Since manuscript paper is performing not automatic call origination mode but manual call origination mode to the JAMU **** case, it shifts to Step C11.

[0150]And when manuscript paper is not in jam at Step C4, it is detected by the control means 11 whether it shifts to Step C5 and the one-touch program is registered into the nonvolatile memory 31. Since automatic call origination mode cannot be performed when this one-touch program is not registered into the nonvolatile

memory 31, it shifts to Step C11. When the one-touch program is registered into the nonvolatile memory 31, it shifts to Step C6 and applicable program NO data is read from the nonvolatile memory 31 to the buffer memory 32. Then, it is distinguished by the control means 11 whether it shifts to Step C7 and "setting out" of two or more addresses is made.

[0151]When "setting out" of two or more addresses was made at Step C7 and it is distinguished, it shifts to Step C8, and the dial of the communication terminal of the partner point is set up, it shifts to Step C9 after that, and a one-touch timer is started by the control means 11. It is for this timer set transmitting a manuscript picture automatically to the communication terminal of the partner point after fixed time lapse.

[0152]And it is supervised by the control means 11 whether the deadline of the predetermined time was passed at Step C10. When this predetermined time passes the deadline of, it shifts to Step C14 and FAX transmission processing is performed. At this time, a manuscript picture is automatically transmitted by the means of communication 14 with a predetermined communication procedure via a communication line to the communication terminal of the partner point. Thereby, automatic call origination mode by the usual one touch key 91 can be performed.

[0153]By the way, when it is [manuscript size] under detection at Step C2 and the start key 911 is already pressed at Step C3, When a manuscript is registered at Step C4 and the one-touch program is not registered at Step C5 as for a JAMU **** case, And when "setting out" of two or more addresses is not made by the one-touch program registration item at Step C7, that automatic call origination mode should be stopped and manual call origination mode should be performed, it shifts to Step C11 and waits for the input of the ten key 92 or an address related button.

[0154]When the address of the communication terminal of the partner point is inputted by the ten key 92 or the address button at this step C11, it shifts to Step C12 and two or more addresses are displayed on the displaying means 21. At Step C11, the communications program containing the address of the buffer memory 32 is added to the communication management file of the nonvolatile memory 31 by the control means 11. Henceforth, it is for using the registration information on this counterpart point.

[0155]Then, it waits to shift to Step C13 and to press the start key 911. When the start key 911 is pressed by the user, it shifts to Step C14 and FAX transmission processing is performed. At this time, a manuscript picture is automatically transmitted by the means of communication 14 with a predetermined communication procedure via a communication line to the communication terminal of the partner point.

[0156]Thus, it is a case where automatic call origination mode by the one touch key 91 is performed in this embodiment at Step C1 of the flow chart shown in drawing 19. Since automatic call origination mode can be stopped and manual call origination mode of Step C11 - Step C14 can be performed when an unset up item is discovered by the one-touch program registration item at the step C7, Based on the communications program which compounded the setting-out item which registered the unset up item and was beforehand registered into the nonvolatile memory 32, and the newly registered setting-out item, FAX transmission processing can be performed at Step C14.

[0157]Therefore, since the automatic call origination mode can be stopped and manual call origination mode can be performed also from the middle of performing automatic call origination mode by the one touch key 91, the use area of the one touch key 91 and its utility value can be expanded and raised substantially.

[0158](5) The 3rd example drawing 21 of operation and drawing 22 of the composite machine 100 are a flow chart which shows the example of operation at the time of other two or more address transmission by the one touch key 91 of the composite machine 100 (the 1, 2).

[0159]In this example, it is a case where automatic call origination mode by the one touch key 91 is performed, and automatic call origination mode by the usual one touch key 91 is performed at Step D1 of the flow chart shown in drawing 21 - Step D9, and Steps D12-D16. And for example, although the plurality "destination name" is registered into the one-touch program registration item, When the telephone number of the partner point is unregistered, Automatic call origination mode is performed to the middle at the step D1 - Step D8, Stop automatic call origination mode by Step D9, and it once shifts to manual call origination mode, Then, dial setting out by manual call origination mode is performed at Step D10, and it is a case where it returns to automatic call origination mode, and after that, again, when deadline is performed normally, the case where it is not performed normally is assumed. In this example, it is made as [shift / when deadline carries out abnormal termination / to manual call origination mode / again].

[0160]It shifts to Step D1 of the flow chart shown in drawing 21 first on the assumption that this, and it waits for the input of the ten key 92 or an address related button. When the "address" of the communication terminal of the partner point is inputted by the ten key 92 or the address button at this step D1, it shifts to Step D2 and two or more "addresses" is displayed on the displaying means 21. At Step D1, the communications program containing the address of the buffer memory 32 is added to the communication management file of the

nonvolatile memory 31 by the control means 11. Henceforth, it is for using the registration information on this counterpart point.

[0161]Then, the control means 11 waits to press the one touch key 91 at Step D3. When the one touch key 91 is pressed by the user, it shifts to Step D4 and it is distinguished whether manuscript size is [*****] under detection now. Since it is assumed that manuscript reading which was shown in drawing 1 and which is depended reading means 12 is already performed, and manual call origination mode is performed when manuscript size is under detection, it shifts to Step D15 of the flow chart shown in drawing 22. It is for stopping automatic call origination mode and performing the transmitting start by manual call origination mode.

[0162]When it is not [manuscript size] under detection at Step D4, it is detected by the control means 11 whether it shifted to Step D5 and the start key 911 was pressed. Since it is not in automatic call origination mode and manual call origination mode is performed when the start key 911 is pressed, it shifts to Step D15. Therefore, when the start key 911 is not pressed at Step D5, it shifts to Step D6 and it is distinguished during manuscript reading whether manuscript paper is jam (paper feeding mistake) ****. Since manuscript paper is performing not automatic call origination mode but manual call origination mode to the JAMU **** case, it shifts to Step D15.

[0163]And when manuscript paper is not in jam at Step D6, it is detected by the control means 11 whether it shifts to Step D7 and the one-touch program is registered into the nonvolatile memory 31. Since automatic call origination mode cannot be performed when this one-touch program is not registered into the nonvolatile memory 31, it shifts to Step D15. When the one-touch program is registered into the nonvolatile memory 31, it shifts to Step D8 and applicable program NO data is read from the nonvolatile memory 31 to the buffer memory 32.

[0164]Then, it is distinguished at Step D9 whether the telephone number of the partner point was inputted (destination input) from applicable program NO data. When a destination input is carried out from this data, it shifts to Step D12 and a one-touch timer is started by the control means 11. It is for this timer set transmitting a manuscript picture automatically to the communication terminal of the partner point after fixed time lapse.

[0165]And it is supervised by the control means 11 whether the predetermined time passed normally at Step D13. When this predetermined time passes the deadline of normally, it shifts to Step D14 and the check before start processing is performed. The check in this case is the check of whether the communications program required for FAX transmission processing is ready to the communication terminal of the partner point, when that communications program is ready, shifts to Step D16 and performs FAX transmission processing. At this time, a manuscript picture is automatically transmitted by the means of communication 14 with a predetermined communication procedure via a communication line to the communication terminal of the partner point. Thereby, automatic call origination mode by the usual one touch key 91 can be performed.

[0166]By the way, when the telephone number of the partner point is not inputted from applicable program NO data at Step D9 (destination input). It is distinguished by the control means 11 whether that automatic call origination mode should be interrupted temporarily and it should change in manual call origination mode, it shifts to Step D10 and the telephone number of the partner point is set as one-touch program registration. Here, the telephone number of the partner point is set as one-touch program registration by the user at Step D10. In this case, it shifts to Step D11 and the dial of the communication terminal of the partner point is set up, after that, it returns to automatic call origination mode, and a one-touch timer is started by the control means 11 at Step D12.

[0167]And it is supervised by the control means 11 whether the deadline of the predetermined time was passed at Step D13. When this predetermined time passes the deadline of, it shifts to Step D14 and the check before start processing is performed. The check in this case is as having mentioned above, when the communications program required for FAX transmission processing is ready, shifts to Step D16 and performs FAX transmission processing. At this time, a manuscript picture is automatically transmitted by the means of communication 14 with a predetermined communication procedure via a communication line to the communication terminal of the partner point. Thereby, after pressing the one touch key 91, even if it is a case where a destination input is not carried out from a communications program, automatic call origination mode can be performed.

[0168]When it is [manuscript size] under detection at Step D4 and the start key 911 is already pressed at Step D5, When a manuscript is registered at Step D6 and the one-touch program is not registered at Step D7 as for a JAMU **** case, When "setting out" is not made for the telephone number of the partner point by the one-touch program registration item at Step D10, When deadline carries out abnormal termination at Step D13, and when an error arises with the check before start processing in Step D14, it waits to shift to Step D15 and to press the start key 911 that automatic call origination mode should be stopped and manual call origination mode should be performed.

[0169]Here, when the start key 911 is pressed by the user, it shifts to Step D16 and FAX transmission

processing is performed. At this time, a manuscript picture is automatically transmitted by the means of communication 14 with a predetermined communication procedure via a communication line to the communication terminal of the partner point.

[0170] Thus, it is a case where automatic call origination mode by the one touch key 91 is performed in this embodiment at Step D3 of the flow chart shown in drawing 21. Since automatic call origination mode can once be stopped and manual call origination mode can be performed at the step D10 when un-registering of the telephone number of the partner point is discovered by the one-touch program registration item at the step D9, Based on the communications program which compounded two or more partner points which newly registered the telephone number and were beforehand registered into the nonvolatile memory 32, and the newly registered telephone number, FAX transmission processing can be performed at Step D16.

[0171] Therefore, while performing automatic call origination mode by the one touch key 91, Since it can shift to manual call origination mode, it can once return to automatic call origination mode again and FAX transmission processing can be performed, the use area of the one touch key 91 and its utility value can be expanded and raised substantially.

[0172] Although this embodiment explained the composite machine 100 provided with the duplication function and the facsimile function about the composite machine 100, It is not restricted to this, and the same effect is acquired even if it is the composite machine provided with three functions, the case of only the facsimile machine which can transmit, a duplication function and a facsimile function, and a printer function, only based on the communications program.

[Translation done.]

* NOTICES *

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- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.**** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1]It is a block diagram showing the example of composition of the composite machine 100 adapting the communication apparatus as each embodiment of this invention.

[Drawing 2]It is a plan showing the example of composition of the navigational panel 90 of the composite machine 100.

[Drawing 3]It is an imaged figure showing the display example of the basic waiting screen P0 at the time of the facsimile function selection (manuscript setting out).

[Drawing 4]It is an imaged figure showing the display example of the destination table waiting screen P1.

[Drawing 5]They are an imaged figure showing the display example of the address registration picture P2, and its state transition diagram.

[Drawing 6]They are an imaged figure showing the display example of its abbreviated dialing addition / edit display P3, and its state transition diagram.

[Drawing 7]They are an imaged figure showing the display example of the abbreviated dialing list display screen P4, and its state transition diagram.

[Drawing 8]It is an imaged figure showing the display example of the retrieval picture P5 before a shortening destination name.

[Drawing 9]They are an imaged figure showing the display example of the group selection picture P6, and its state transition diagram.

[Drawing 10]It is an imaged figure showing the display example of the group address registration picture P7 and the registration picture P8 before the group name.

[Drawing 11]They are an imaged figure showing the display example of the group address confirmation screen P9, and its state transition diagram.

[Drawing 12]It is an imaged figure showing the example of display transition of the one-touch program registration screen of the composite machine 100 adapting the 1st composite machine as other embodiments.

[Drawing 13]It is an imaged figure showing the display example of its program registration / edit display P11, and the program registration/edit display P12 of the low order hierarchy.

[Drawing 14]They are an imaged figure showing the display example of the program registration / edit display P13 of other low order hierarchies, and its state transition diagram.

[Drawing 15]It is a flow chart which shows the example of registration of the communications program by the composite machine 100 (the 1).

[Drawing 16]It is a flow chart which shows the example of registration of the communications program by the composite machine 100 (the 2).

[Drawing 17]It is a flow chart which shows the example of registration of the communications program by the composite machine 100 (the 3).

[Drawing 18]It is a flow chart which shows the example of operation concerning the keystroke at the time of the FAX transmission of the composite machine 100.

[Drawing 19]It is a flow chart which shows the example of operation at the time of two or more address transmission by the one touch key 91 (the 1).

[Drawing 20]It is a flow chart which shows the example of operation at the time of two or more address transmission by the one touch key 91 (the 2).

[Drawing 21]It is a flow chart which shows other examples of operation at the time of two or more address transmission by the one touch key 91 (the 1).

[Drawing 22]It is a flow chart which shows other examples of operation at the time of two or more address transmission by the one touch key 91 (the 2).

[Drawing 23]It is a plan showing the example of composition of the navigational panel 1 of the communication

apparatus 10 of a conventional system.

[Drawing 24]It is an imaged figure showing the display example of the liquid crystal display 2.

[Description of Notations]

11 ... A control means, 12 ... A manuscript reading means, 13 ... Image memory (memory measure), 14 ... A means of communication, 15 ... A decoding means, 16 ... Encoding means, 17 ... An image forming means, 18 ... A calling means, 19 ... Control means, 21 ... A displaying means, 23 ... A mode change key, 31 ... Nonvolatile memory (registration means), 32 [... A selector (selecting means), 90 / .. A navigational panel, 91 / ... A one touch key, 92 / ... A ten key, 92' / ... An abbreviated key, 100 / ... Composite machine] ... A buffer memory, 33 ... A manual start means, 34 ... An automatic start means, 35

[Translation done.]

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- 3.In the drawings, any words are not translated.

DRAWINGS

[Drawing 3]
ファクシミリ機能選択時の基本待機画面
(原稿設定) P 0 の表示例

送信できます

応用送信

複数宛先

メモリ残量100%

追加

0428-60-9285

4件

宛先表

リファ

原稿設定

予約リスト

原稿読み込み

短縮

リファ

リファ

トーン

ボース

一

閉除

RADF

解像度

画質

縮尺

紙張+両面

高解像

写真

送る

両面

縮尺

文字等

送る

送る

送る

送る

送る

[Drawing 4]
宛先表待機画面 P 1 の表示例

送信できます

応用送信

複数宛先

メモリ残量100%

追加

0428-60-9285

4件

宛先表

リファ

原稿設定

予約リスト

原稿読み込み

短縮

リファ

リファ

登録

K B J

海外

未登録

01 エキス

12 エキス

40 新宿支店

↑

02 エキス

20 神奈川営業

41 大阪支店

↓

03 エキス

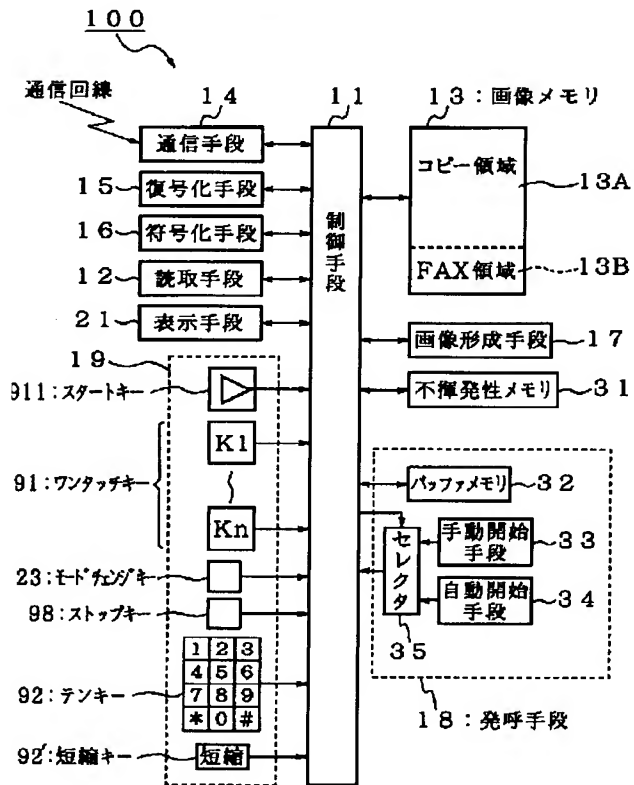
30 エキス

42 名古屋支店

↓

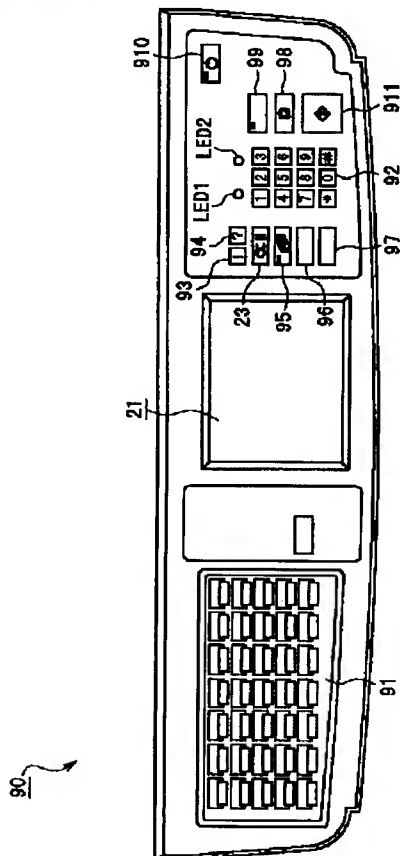
[Drawing 1]

各実施形態としての通信装置を応用した
複合機100の構成例



[Drawing 2]

複合機100の操作パネル90の構成例



[Drawing 8]

短縮宛先名前検索画面 P 5 の表示例

短縮名検索
検索文字と項目を選択してください

あ い う え お さ た な は ま や ら わ 英数字

01 エニハ王子 02 エニ日野 03 エニ本社
04 エニ支社 20 神奈川営業 30 エニ小田原
50 関西支社 89 鹿児島 99 鹿児島工場
*11 鹿児島 *33 株)ABC

↑ ↓ 編集 削除 戻る

P 5

[Drawing 11]

グループ宛先確認画面 P 9 の表示例

グループ選択画面

戻る ↑ ↓ 宛先確認

グループ 3 (名前: 未登録) / 宛先: 7
の登録内容を確認できます

短縮No. 宛先名

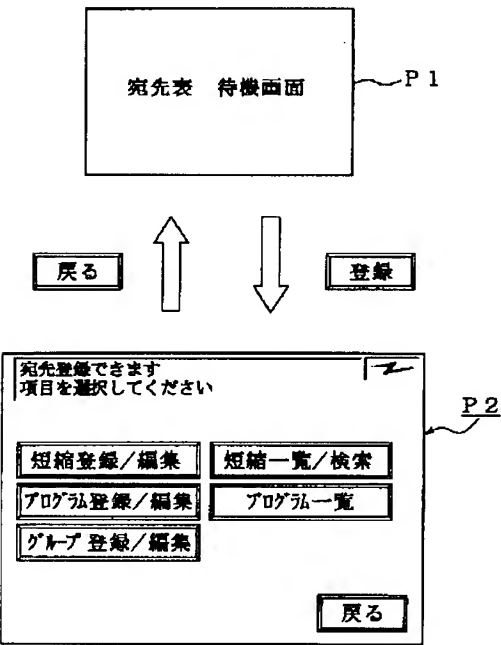
01 コニカ本社
02 コニカ八王子
03 コニカ2番センター
12 0123456789-0123456789-0123
*01 ABC株式会社
*02 0426-80-9285
*99 0120-444-444

↑ ↓ 削除 戻る

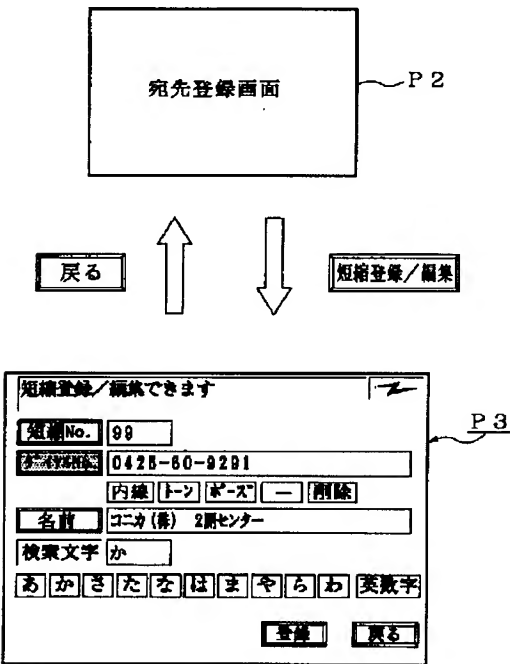
P 9

[Drawing 5]

宛先登録画面 P 2 の表示例

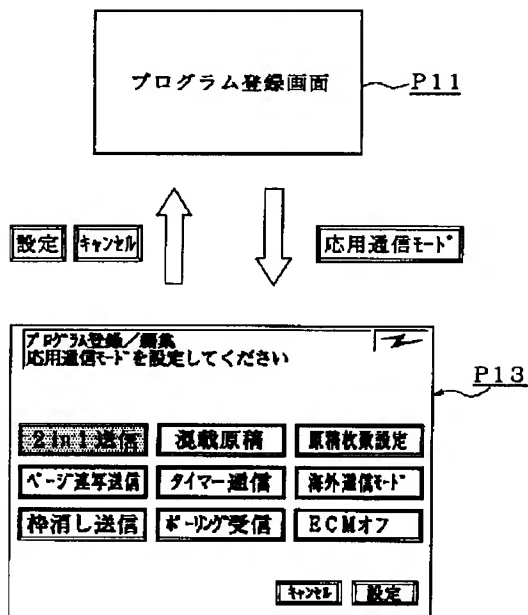


[Drawing 6]
短縮ダイヤル追加/編集画面 P 3 の表示例



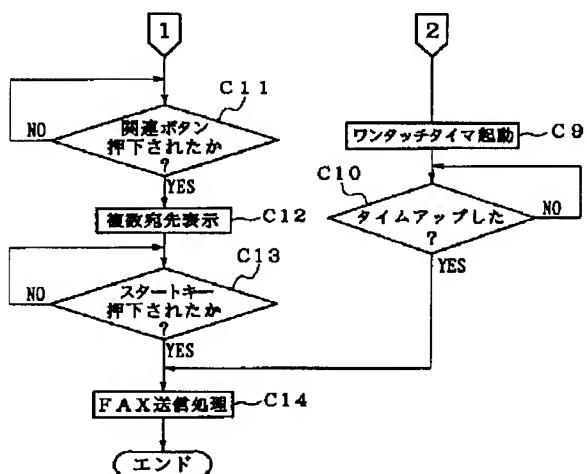
[Drawing 14]

プログラム登録／編集画面 P 1 1 の
表示例及び他の遷移例



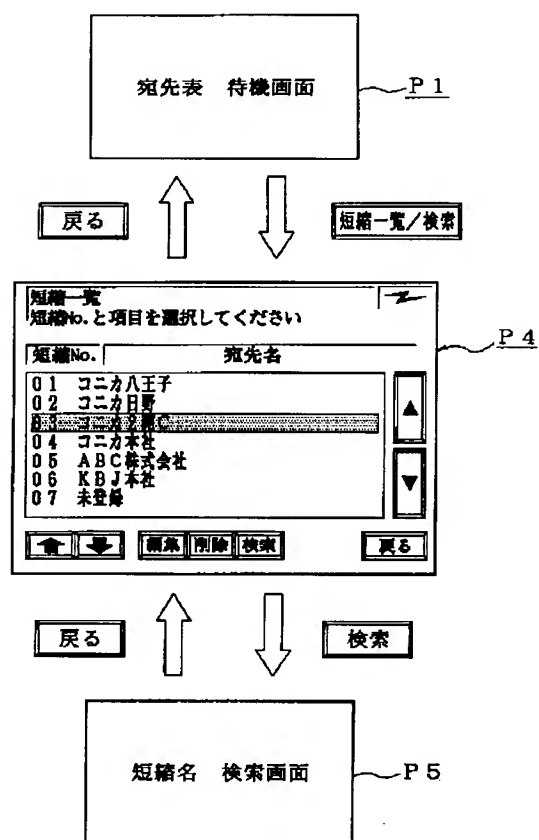
[Drawing 20]

ワンタッチキー 9 1 による複数宛先
送信時の動作例 (その 2)



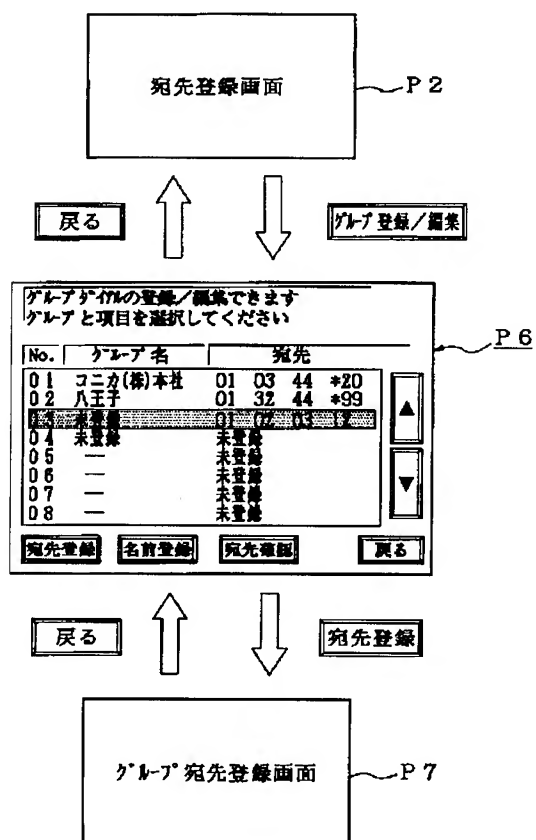
[Drawing 7]

短縮ダイヤル一覧表示画面 P 4 の表示例

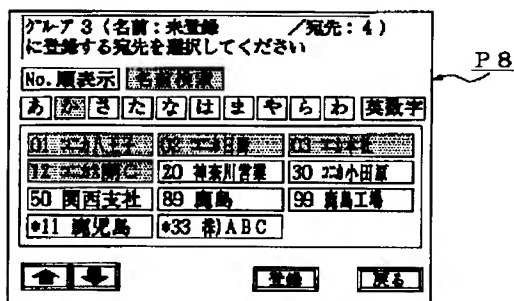
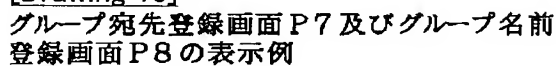
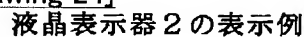


[Drawing 9]

グループ選択画面 P 6 の表示例

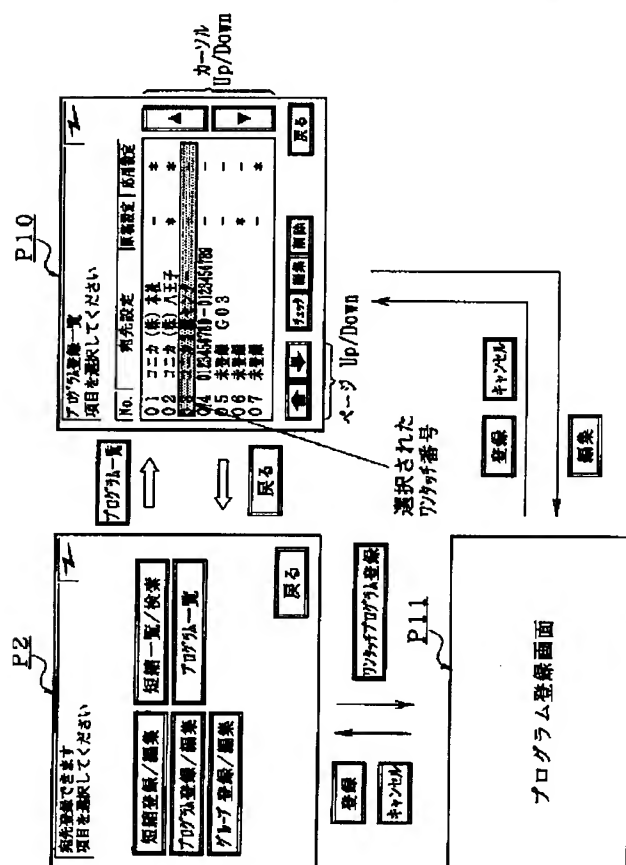


従来方式の通信装置１０の操作パネルの構成例

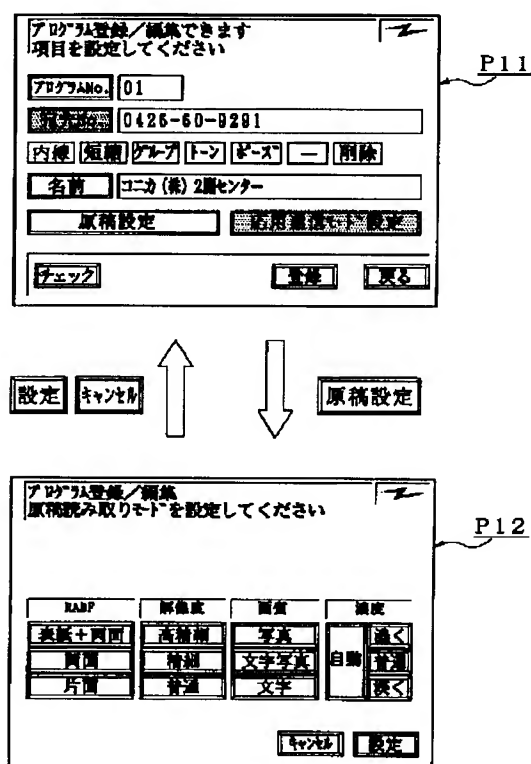


[Drawing 12]

ワンタッチ・プログラム登録画面の表示遷移例

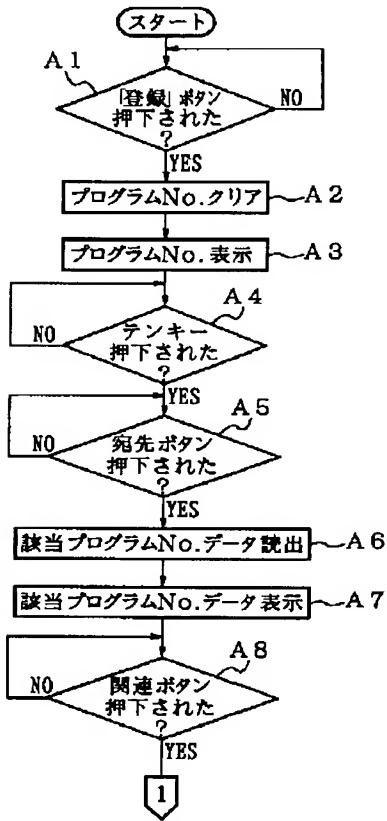


[Drawing 13]

プログラム登録／編集画面 P 1 1 の表示例
及びその遷移例

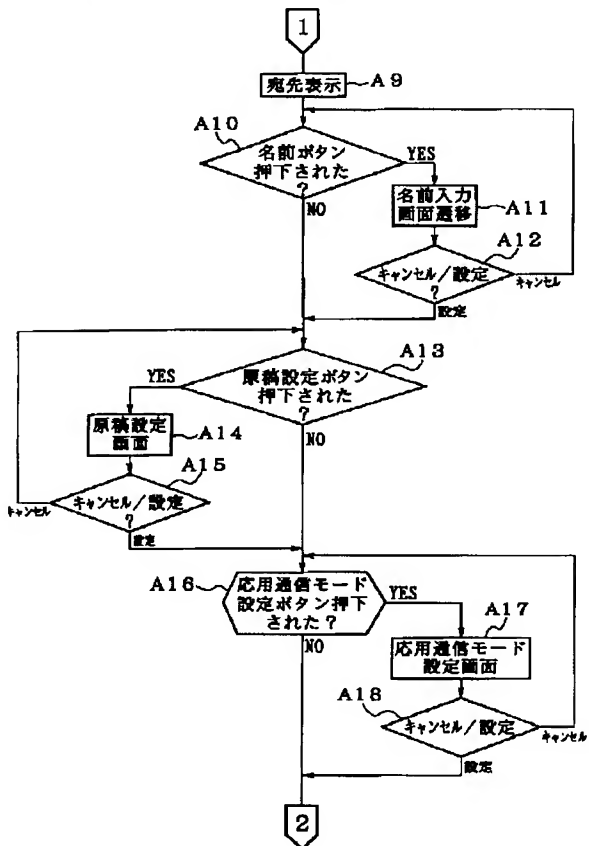
[Drawing 15]

通信プログラムの登録例（その１）



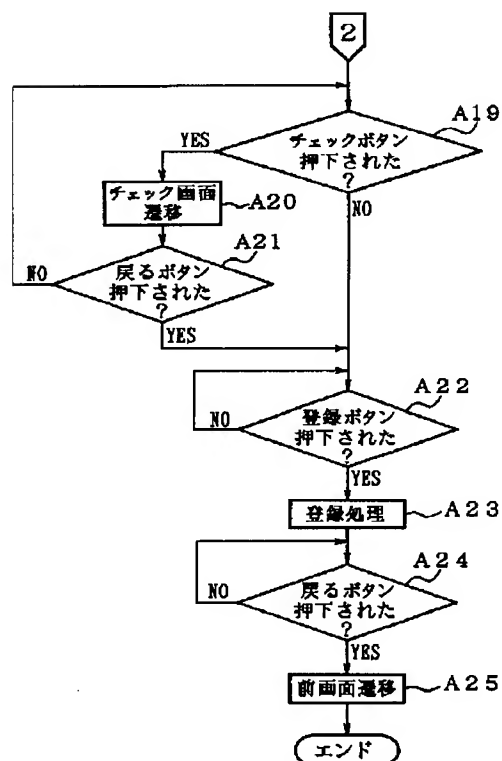
[Drawing 16]

通信プログラムの登録例（その２）

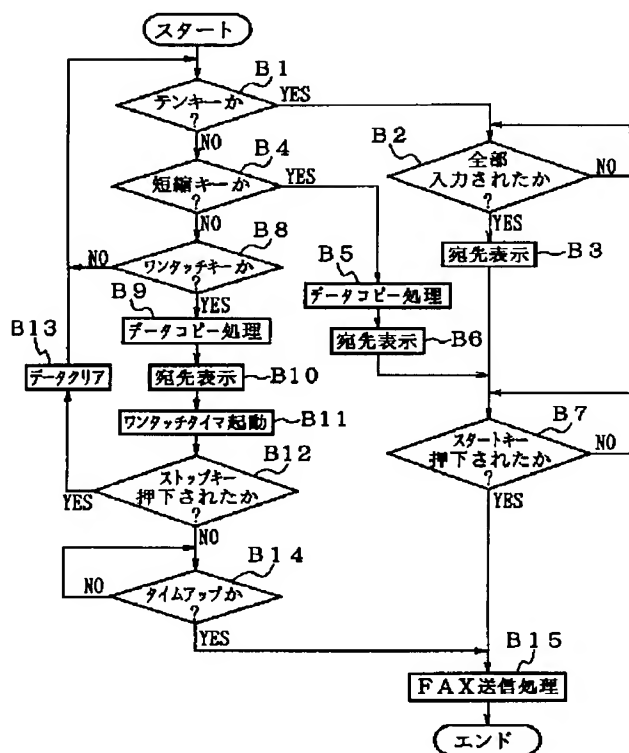


[Drawing 17]

通信プログラムの登録例 (その3)

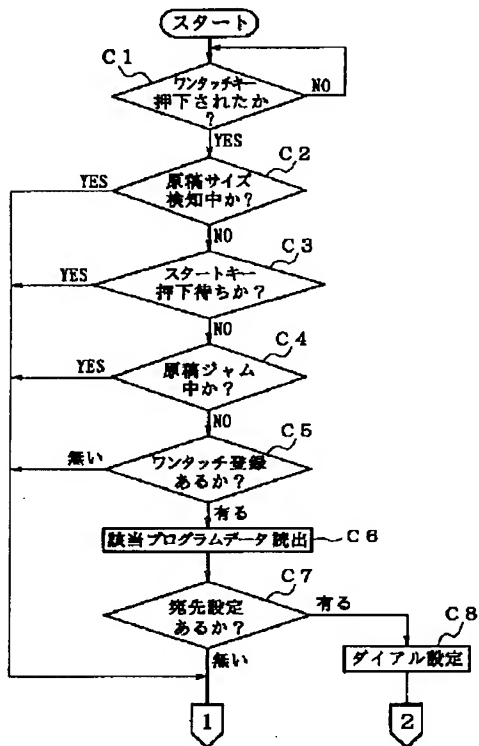


[Drawing 18]

複合機100のFAX送信時の
キー入力に係る動作例

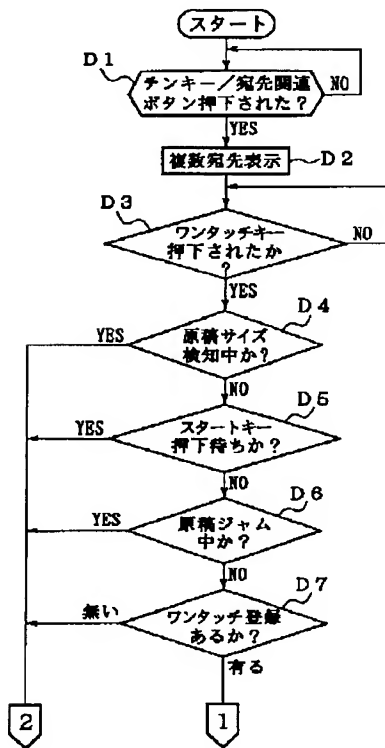
[Drawing 19]

ワンタッチキー 9 1 による複数宛先
送信時の動作例（その 1）

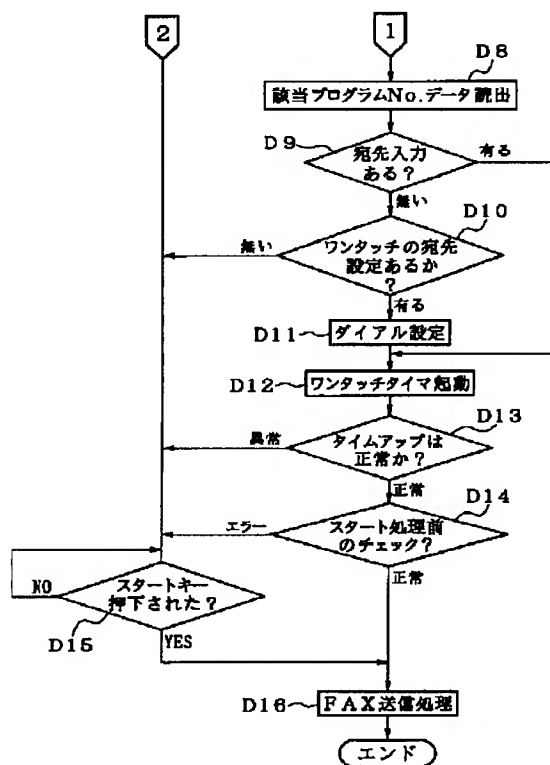


[Drawing 21]

ワンタッチキー 9 1 による複数宛先
送信時の他の動作例（その 1）



[Drawing 22]

ワンタッチキー 9 1 による複数宛先
送信時の他の動作例 (その 2)

[Translation done.]

(19) 日本国特許庁 (J P)

(12) 公開特許公報 (A)

(11) 特許出願公開番号
特開2000-134308
(P2000-134308A)

(43) 公開日 平成12年5月12日 (2000.5.12)

(51) Int.Cl. ⁷	識別記号	F I	テーマコード [*] (参考)
H 0 4 M 1/27		H 0 4 M 1/27	5 C 0 7 5
	11/00	11/00	3 0 3 5 C 0 7 6
H 0 4 N 1/32		H 0 4 N 1/32	Z 5 K 0 3 6
1/387		1/387	5 K 1 0 1

審査請求 未請求 請求項の数 7 O L (全 26 頁)

(21) 出願番号 特願平10-303079

(22) 出願日 平成10年10月23日 (1998. 10. 23)

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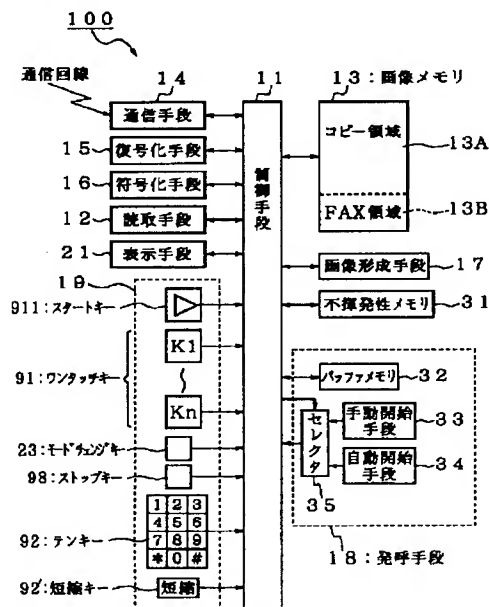
(54) 【発明の名称】 通信装置及び通信方法

(57) 【要約】

【課題】 予め登録された相手先を含む通信プログラムに相手先番号や、グループ番号を追加できるようにしたり、その通信プログラムの内容を変更できるようにすると共に、ワンタッチキーの利用範囲及びその利用価値を大幅に拡大かつ向上できるようにする。

【解決手段】 予め相手先を含む通信プログラムを登録する不揮発メモリ 31 と、手動発呼モード、又は、自動発呼モードに基づいて、所望の相手先装置に発呼する発呼手段 18 と、この手動発呼モード又は自動発呼モードのいずれかを選択するセレクタ 35 と、不揮発メモリ 31 に登録された相手先を含む通信プログラムによって、自動発呼モードを実行するか否かを判別してセレクタ 35 を制御する制御手段 11 とを備え、ワンタッチキー 91 が押下された際に、その通信プログラムによって、自動発呼モードを実行しないと判別した場合には、自動発呼モードを中止して手動発呼モードを実行するように制御するものである。

各実施形態としての通信装置を応用した複合機 100 の構成例



【特許請求の範囲】

【請求項1】 通信開始キーと、ワンタッチキーと、
 予め相手先を含む通信プログラムを登録する登録手段
 と、
 前記通信開始キーの入力により前記登録手段に登録され
 た相手先に発呼開始する手動発呼モード、又は、通信開
 始キーの入力によらずに相手先を指定した時刻から所定
 時間が経過した後に、前記相手先に発呼開始する自動発
 呼モードに基づいて、所望の相手先装置に発呼する発呼
 手段と、
 前記発呼手段による前記手動発呼モード又は自動発呼モ
 ードのいずれかを選択する選択手段と、
 前記登録手段に登録された相手先を含む通信プログラム
 によって、前記自動発呼モードを実行するか否かを判別
 して前記選択手段を制御する制御手段とを備え、
 前記制御手段は、
 前記ワンタッチキーが押下された際に、
 前記登録手段に登録された前記相手先を含む通信プログ
 ラムによって、前記自動発呼モードを実行しないと判別
 した場合には、前記自動発呼モードを中止して前記手動
 発呼モードを実行するように制御することを特徴とする
 通信装置。

【請求項2】 前記制御手段は、
 前記ワンタッチキーが押下された際に、
 新たに登録された相手先を含む通信プログラムと、既に
 前記登録手段に登録されている相手先を含む通信プログ
 ラムとを合成して前記手動発呼モード又は自動発呼モー
 ドを実行するようになされたことを特徴とする請求項1
 に記載の通信装置。

【請求項3】 前記登録手段、発呼手段及び選択手段が
 設けられる場合であって、
 前記発呼手段は、
 相手先を含む通信プログラムを一時記憶する記憶手段
 と、
 通信開始キー入力により前記記憶手段から相手先を含む
 通信プログラムを出力すると共に、手動発呼モードを実
 行するための開始指令信号を発生する手動開始手段と、
 前記通信開始キーの入力によらずに前記記憶手段に最後
 の相手先を指定した時刻から所定時間が経過した後に、
 前記記憶手段から相手先を含む通信プログラムを出力す
 ると共に、自動発呼モードを実行するための開始指定信
 号を発生する自動開始手段とを有し、
 前記選択手段は、
 ワンタッチキーが押下された際に、
 前記登録手段に登録された前記相手先を含む通信プログ
 ラムに関する情報に基づいて前記手動開始手段又は自動
 開始手段のいずれかを選択するようになされたことを特
 徴とする請求項1に記載の通信装置。

【請求項4】 前記選択手段は、
 前記ワンタッチキーの相手先に関する情報に基づいて前

記手動開始手段または自動開始手段を選択することを特
 徴とする請求項1に記載の通信装置。

【請求項5】 前記選択手段は、
 前記ワンタッチキーの相手先に関する情報が登録されて
 いない場合には、前記手動開始手段を選択し、前記相手
 先に関する情報が登録されている場合には、前記自動開
 始手段を選択することを特徴とする請求項1に記載の通
 信装置。

【請求項6】 前記ワンタッチキーに対応して、少なく
 とも、相手先に関する情報と、自動又は手動発呼モー
 ドを設定する情報とが予め前記登録手段に登録される場
 合であって、
 前記選択手段は、
 前記ワンタッチキーに対応して登録された発呼モード設
 定情報が手動指令である場合には、前記手動開始手段を
 選択し、前記発呼モード設定情報が自動指定である場
 合には、前記自動開始手段を選択することを特徴とする請
 求項1乃至5に記載のいずれか1つの通信装置。

【請求項7】 予めワンタッチキーに対応して登録され
 た相手先を含む通信プログラムと、通信開始キーの入力
 により前記相手先に発呼開始する手動発呼モード、又
 は、通信開始キーの入力によらずに相手先を指定した時
 刻から所定時間が経過した後に、前記相手先に発呼開始
 する自動発呼モードに基づいて、所望の相手先装置と通
 信する通信方法において、
 前記ワンタッチキーが押下された際に、
 前記ワンタッチキーに対応して登録された相手先を含む
 通信プログラムによって、自動発呼モードを実行するか
 否かを判別し、
 前記通信プログラムによって、自動発呼モードを実行し
 ないと判別された場合には、前記自動発呼モードを中止
 して手動発呼モードを実行するようになされたことを特
 徴とする通信方法。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】この発明は、相手先を含む通
 信プログラムに基づいて送信可能なファクシミリ装置
 や、このようなファクシミリ機能、複写機能及びプリン
 タ機能を備えた複合機などに適用して好適な通信装置及
 び通信方法に関するものである。

【0002】

【従来の技術】近年、相手先を含む通信プログラムに基
 づいて送信可能なファクシミリ装置などの通信装置が使
 用される場合が多くなってきた。この種のファクシミリ
 装置に関しては、技術文献である特開平3-27635
 6号公報に通信装置が開示されている。

【0003】この技術文献による通信装置10は、図2
 3に示す操作パネル1を有している。その操作パネル1
 には液晶表示器2が設けられ、例えば、通信プログラム
 を登録する場合には、送信日時、送信時間、宛先の電話

番号、宛先数などのメッセージが順を追って表示するようになされている。一連のメッセージに対してユーザは所定の入力キー3及びワンタッチキー4を操作して行くと、宛先の電話番号などを追加することができる。そして、液晶表示器2には「通信ができます」などの終了メッセージが表示される。

【0004】また、通信プログラムを変更するとき、例えば、相手先の電話番号を変更するときには、その液晶表示器2に図24に示すような「宛先を変更しますか」などのメッセージが表示されると共に、「1：追加」、

「2：削除」、「3：送信スタート」のキー情報が1つの画面内に表示される。ユーザはこの3つのキー情報から選択をして相手先の追加や削除を行うように構成されている。

【0005】ところで、従来方式の通信装置10によれば、図示しない通信キー登録手段が設けられ、ワンタッチキー4又は図示しない短縮キーに対応して相手先の電話番号と、相手先名称と、通信プログラムとが予め登録（以下、通信プログラム対応登録情報という）されている。そして、FAX送信処理する際には、所定のワン

タッチキー4を押下するのみで、そのワンタッチキー4に対応した通信プログラム対応登録情報が、通信キー登録手段から通信ジョブ設定用のバッファメモリへ転送するようになされる。その後、ワンタッチタイマが起動され、所定時間が経過すると、相手先の通信端末に原稿画像を自動送信するようになされる（自動発呼モード）。

【0006】この構成によって、FAX送信時に、通信プログラム対応登録情報を自動設定することができるので、ユーザにとってFAX送信時の相手先の電話番号入力や、相手先名称入力といった面倒なキー操作をい

ち行う必要がなくなる。

【0007】

【発明が解決しようとする課題】しかしながら、従来方式のワンタッチキーによる自動発呼モードでは、通信ジョブの設定操作において、図示しないバッファメモリに転送された通信プログラム対応登録情報の内容が変更できない、あるいは、その内容を変更できるように配慮されていない。

【0008】このため、最初から通信プログラム対応登録情報を設定し直さなければならない、あるいは、既に、通信キー登録手段に登録されている設定項目に相手先番号や、通信プログラムを追加、変更してから送信することができないという問題が生じる。

【0009】そこで、この発明は上述した課題を解決したものであって、予め登録された相手先を含む通信プログラムに相手先番号や、グループ番号を追加できるようにしたり、その通信プログラムの内容を変更できるようにすると共に、ワンタッチキーの利用範囲及びその利用価値を大幅に拡大かつ向上できるようにした通信装置及び通信方法を提供することを目的とする。

【0010】

【課題を解決するための手段】上記課題を解決するために、本発明の通信装置は、通信開始キーと、ワンタッチキーと、予め相手先を含む通信プログラムを登録する登録手段と、通信開始キーの入力により登録手段に登録された相手先に発呼開始する手動発呼モード、又は、通信開始キーの入力によらずに相手先を指定した時刻から所定時間が経過した後に、相手先に発呼開始する自動発呼モードに基づいて、所望の相手先装置に発呼する発呼手段と、この発呼手段による手動発呼モード又は自動発呼モードのいずれかを選択する選択手段と、登録手段に登録された相手先を含む通信プログラムによって、自動発呼モードを実行するか否かを判別して選択手段を制御する制御手段とを備え、ワンタッチキーが押下された際に、制御手段は、登録手段に登録された相手先を含む通信プログラムによって、自動発呼モードを実行しないと判別した場合には、自動発呼モードを中止して手動発呼モードを実行するように制御することを特徴とするものである。

【0011】本発明の通信装置によれば、ワンタッチキーが押下された際に、登録手段に登録された相手先を含む通信プログラムによって、自動発呼モードを実行しないと制御手段によって判別された場合には、自動発呼モードを中止して手動発呼モードが実行されるので、予め登録手段に登録された相手先を含む通信プログラムに相手先番号や、グループ番号を追加したり、その通信プログラムの内容を変更したりすることができる。

【0012】従って、通信開始キーの入力により、予め登録手段に登録されていた設定項目と、新たに登録した設定項目とを合成した通信プログラムに基づいて通信処理を実行することができるので、ワンタッチキーの利用範囲及びその利用価値を大幅に拡大かつ向上させることができる。

【0013】本発明の通信方法は、予めワンタッチキーに対応して登録された相手先を含む通信プログラムと、通信開始キーの入力により相手先に発呼開始する手動発呼モード、又は、通信開始キーの入力によらずに相手先を指定した時刻から所定時間が経過した後に、相手先に発呼開始する自動発呼モードに基づいて、所望の相手先装置と通信する通信方法において、ワンタッチキーが押下された際に、ワンタッチキーに対応して登録された相手先を含む通信プログラムによって、自動発呼モードを実行するか否かを判別し、その通信プログラムによって、自動発呼モードを実行しないと判別された場合には、自動発呼モードを中止して手動発呼モードを実行するようになされたことを特徴とするものである。

【0014】本発明の通信方法によれば、ワンタッチキーが押下された際に、予め登録された相手先を含む通信プログラムによって、自動発呼モードを実行しないと判別された場合には、自動発呼モードを中止して手動発呼

モードが実行されるので、既に登録された相手先を含む通信プログラムに相手先番号や、グループ番号を追加したり、その通信プログラムの内容を変更したりすることができる。

【0015】従って、通信開始キーの入力によって、予め登録されていた設定項目と、新たに登録した設定項目とを合成した通信プログラムに基づいて通信処理を実行することができるので、ワンタッチキーの利用範囲及びその利用価値を大幅に拡大かつ向上させることができる。

【0016】

【発明の実施の形態】以下、図面を参照しながら、この発明に係る通信装置及び通信方法について説明をする。

【0017】(1) 実施形態としての通信装置

図1は、本発明の各実施形態としての通信装置を応用した複合機100の構成例を示すブロック図である。

【0018】この実施形態では、相手先を含む通信プログラムによって、自動発呼モード(タイムアップ発呼)を実行するか否かを判別する手段を設け、ワンタッチキーが押下された際に、自動発呼モードを実行しないと判別された場合には、自動発呼モードを中止して手動発呼モード(マニュアル発呼)を実行するようにして、予め登録された相手先を含む通信プログラムに相手先番号や、グループ番号を追加できるようにしたり、その通信プログラムの内容を変更できるようにすると共に、ワンタッチキーの利用範囲及びその利用価値を大幅に拡大かつ向上できるようにしたものである。

【0019】この発明に係る複合機100は、ワンタッチキー又は短縮キーの入力操作に対応した相手先を含む通信プログラムに基づいてグループ通信を行うファクシミリ機能を有したものである。このグループ通信では、例えば、本社、支社又は工場などの関連企業間で、原稿画像データの送信相手先が予めグループ単位にまとめられ、そのグループを指定することにより、そのグループに登録された相手先に同じ内容の原稿画像データが送信されるものである。

【0020】図1に示す複合機100は制御手段11を有している。この制御手段11には操作手段19が接続されている。この操作手段19にはモードチェンジキー23、通信開始キー(以下スタートキーという)911と、複数のワンタッチキー91(K_i, i=1~n)と、テンキー92や短縮キー92'と、ストップ/クリアボタン(以下単にストップキーという)98などが設けられる。短縮キー92'については短縮番号がテンキー92を使用して入力される。

【0021】この例では、少なくとも、モードチェンジキー23は当該複合機100における複写機能又はファクシミリ機能が切り替えに使用され、ワンタッチキー91は同機能の自動発呼モードのときに使用され、テンキー92や短縮キー92'は同機能の手動発呼モードのと

きに使用され、ストップキー98はFAXジョブを中止させるときに使用され、スタートキー911はファクシミリ機能時の手動発呼モード及び自動発呼モードを中止した後の再発呼のときに使用される。

【0022】この操作手段19には制御手段11を経由して表示手段21が接続され、モードチェンジキー23の操作に応じて、複写機能の動作条件を設定するための複写画面又はファクシミリ機能の動作条件を設定するためのファクシミリ画面が表示されるようになされている。

10 この例でファクシミリ画面を選択したときは、送信相手先をグループにまとめたグループ登録画面などが表示される。そのグループ登録画面上で、複数の通信相手先を「グループ」として登録することができ、通信プログラムの相手先としてグループを指定することができる。

【0023】その際に、短縮キー92'で送信相手先を登録することができ、グループとして登録する相手先も短縮番号で登録することができる。これと共に、そのグループ登録画面から相手先の追加、削除、修正を行えるようになされている。表示手段21の表示画面例については、図2~図14で説明する。

【0024】この制御手段11には原稿読取手段12が接続され、複写機能やファクシミリ機能を選択し、これらの動作条件を設定すると、その動作条件に基づいて原稿の画像が読み取られ、原稿画像データが発生される。原稿読取手段12には自動原稿読み取り装置(スキャナ)などが使用される。この原稿読取手段12には制御手段11を介して画像メモリ13が接続され、複写機能用としてコピー領域13Aが割り当てられ、ファクシミリ機能用としてFAX領域13Bが割り当てられている。

【0025】このコピー領域13Aには、原稿読取手段12によって読み取られた原稿画像データが主に記憶される。この例で、コピー領域13AはFAX領域13Bに比べて大容量のメモリ領域が割り当てられる。画像メモリ13には記憶保持動作が必要なDRAMなどを使用するとよい。

【0026】この画像メモリ13の他に登録手段としての不揮発メモリ31が制御手段11に接続され、ワンタッチキー登録テーブル、短縮キー登録テーブル及びグループ登録テーブルが準備されている。ワンタッチキー登録テーブルには、ワンタッチキー91の入力操作に対応した相手先の指定を含む通信プログラムであって、相手先装置に画像送信するための通信プログラムが登録される。短縮キー登録テーブルには、短縮番号の入力操作に対応した相手先の指定を含む通信プログラムであって、相手先装置に画像送信するための通信プログラムが登録される。

【0027】また、グループ登録テーブルには複数の相手先がグループ名として登録される。この例で、不揮発

メモリ31にはE²PROM(電氣的な情報の書き込み及び消去が可能な読み出し専用メモリ)などを使用する。

【0028】更に、制御手段11にはソフトウェアによって実現される発呼手段18が接続され、スタートキー911の入力により不揮発メモリ31に登録された相手先に発呼開始する手動発呼モード、又は、スタートキー911の入力によらずに最後の相手先を指定した時刻から所定時間が経過した後に、相手先に発呼開始する自動発呼モードとに基づいて所望の相手先装置に発呼するようになる。

【0029】この発呼手段18は記憶手段としてバッファメモリ32、手動開始手段33、自動開始手段34、及び、選択手段としてのセクタ35を有している。バッファメモリ32には相手先を含む通信プログラムが一時記憶される。バッファメモリ32には、随時情報が書き込み読み出し可能なメモリ(RAMや、DRAM等)を使用する。その他に、バッファメモリ32にはグループ登録画面上で登録された複数の相手先のグループ情報などが一時記憶される。

【0030】この例では、ワンタッチキー91あるいは短縮キー92'の入力操作に対応する通信プログラムの相手先としてグループ名が予め不揮発メモリ31に登録されている場合に、制御手段11によって、そのグループ名に対応する相手先が通信プログラムの相手先としてバッファメモリ32に書き込まれる。

【0031】この手動開始手段33では、スタートキー911の押下によりバッファメモリ32から相手先を含む通信プログラムが出力されると共に、手動発呼モードを実行するための開始指令信号が発生される。自動開始手段34では、スタートキー911の入力によらずにバッファメモリ32に最後の相手先が指定されてから所定時間が経過した後に、バッファメモリ32から相手先を含む通信プログラムが出力されると共に、自動発呼モードを実行するための開始指令信号が発生される。

【0032】この手動開始手段33及び自動開始手段34に接続されたセクタ35では、ワンタッチキー91が押下された際に、不揮発メモリ31に登録された相手先を含む通信プログラムに関する情報に基づいて手動開始手段33又は自動開始手段34のいずれかを選択するように動作する。

【0033】この例では、ワンタッチキー91の相手先に関する情報に基づいてセクタ35が手動開始手段33または自動開始手段34を選択するようになる。例えば、ワンタッチキー91の相手先に関する情報が不揮発メモリ31に登録されていない場合には、セクタ35によって手動開始手段33が選択され、相手先に関する情報が登録されている場合には、自動開始手段34が選択される。

【0034】この例では、ワンタッチキー91に対応し

て少なくとも相手先に関する情報と、自動又は手動発呼モードを設定する情報(以下発呼モード設定情報という)が予め不揮発メモリ31に登録される場合であって、セクタ35は、ワンタッチキー91に対応して登録された発呼モード設定情報が手動指令である場合には、手動開始手段33を選択し、発呼モード設定情報が自動指定である場合には、自動開始手段34を選択するようになる。

【0035】この発呼手段18による手動発呼モード又は自動発呼モードのいずれかを選択するセクタ35と、不揮発メモリ31に登録された相手先を含む通信プログラムによって、自動発呼モードを実行するか否かを判別してセクタ35が制御される。

【0036】この発呼手段18に接続された制御手段11では、ワンタッチキー91が押下された際に、不揮発メモリ31に登録された相手先を含む通信プログラムによって、自動発呼モードを実行しないと判別した場合には、自動発呼モードを中止して手動発呼モードを実行するように制御する。その際の判別基準は、例えば、相手先番号の登録項目がブランクである場合、あるいは、発呼モード設定情報がマニュアル発呼切替え情報である場合、又は、自動発呼モード実行中にユーザがストップキー98を押下した場合などであり、この場合には自動発呼モードを中止して手動発呼モードに移行すると判別する。

【0037】そのため上述の判別基準情報が予め準備され、例えば、ワンタッチキー91の押下後に、バッファメモリ32の所定項目情報がチェックされ、予め設定された判別基準情報と所定項目情報とが一致した場合には、自動発呼モードを中止して手動発呼モードが実行される。

【0038】このように構成すると、ワンタッチキー91が押下された際に、自動発呼モードを実行しないと制御手段によって判別された場合には、自動発呼モードを中止して手動発呼モードが実行されるので、予め不揮発メモリ31に登録された相手先を含む通信プログラムに相手先番号や、グループ番号を追加したり、その通信プログラムの内容を変更したりすることができる。

【0039】従って、スタートキー911を操作すると、既に不揮発メモリ31に登録されている相手先を含む通信プログラムと、新たに登録した相手先を含む通信プログラムとを合成して手動発呼モード又は自動発呼モードを実行することができるので、ワンタッチキー91の利用範囲及びその利用価値を大幅に拡大かつ向上させることができる。

【0040】上述のバッファメモリ32には通信予約管理テーブルが準備され、少なくとも、ファクシミリ時の画像データ及び読取手段12による画像データに関する属性情報(ファイル管理情報)が制御手段11によって作成され、この属性情報がファイル管理される。例え

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ば、画像メモリ13に入力された画像データはページ単位で管理され、ファイル名称No、機能種別#、開始時刻、終了時刻、送信相手先、親展ID、処理種別、進行状態等の項目が各ファイル毎に二次元的(テーブル状)に格納されている。

【0041】また、画像データの処理工程の進捗状況に伴い、適宜、その属性情報が更新される。例えば、ファクシミリ受信に関するファイル管理情報の構成例を示すと、機能種別が通常受信の場合には、01:受信中、10:受信済み/記録中、11:記録完了済みのように更新される。また、機能種別には001:通常通信、010:中継受信、011:親展受信などの項目に分けられている。

【0042】このバッファメモリ32には制御手段11を介して表示手段21が接続されるので、バッファメモリ32から読み出された複数の相手先のグループ情報などが表示手段21で表示される。従って、表示手段21のグループ登録画面上で、複数の通信相手先を「グループ」として登録したり、その通信プログラムの相手先としてグループを指定することができる。

【0043】また、制御手段11には通信手段14が接続され、ファクシミリ機能を選択し、この動作条件を設定すると、その動作条件に基づいて所定の通信制御手順に従ってデータ通信が行われる。この例では、手動発呼モード又は自動発呼モードによって発生した開始指令信号に基づいて所定の通信手順で制御手段11によって原稿送信動作が実行される。

【0044】例えば、制御手段11は、通信プログラムの相手先としてグループ名が予め登録されたワンタッチキー91あるいはテンキー92及び短縮キー92'などの入力操作がなされた場合に、不揮発メモリ31にグループ名に対応して登録されている相手先の通信端末に対して通信回線を介して所定の通信手順で原稿送信動作が実行される。

【0045】この通信手段14はネットワークコントロールユニット(網制御装置)などが設けられ、NTTなどの公衆網との間で、当該複合機100からの発呼、不特定多数の相手方からの着呼、復旧、切断処理などの接続制御が行われる。例えば、このユニットによってリング検出が行われ、相手方が発呼した送信要求が受信される。

【0046】この通信手段14には図示しない通信モデムが設けられ、受信時には、公衆網によって伝送されてきた変調信号を復調してデジタルの受信画像データに変換したり、送信時には、公衆網の周波数帯に整合するように原稿画像データを変調して変調信号に変換するようになされる。通信手段14で受信した受信画像データは、FAX領域13Bに記憶される。

【0047】この通信手段14には制御手段11を介して復号化手段15が接続され、受信時に、受信画像デー

タが復号化されて伸張される。通信手段14には制御手段11を介して符号化手段16が接続され、送信時に、原稿画像データが圧縮されて符号化される。

【0048】この制御手段11には画像形成手段17が接続され、複写機能又はファクシミリ機能を選択し、これらの動作条件を設定すると、その動作条件に基づいてコピー領域13Aに記憶された原稿画像データ、あるいは、FAX領域13Bに記憶された受信画像データなどに基づいて、記録材上に画像を形成するようになされている。画像形成手段17は図示しない記録紙収納装置、現像器、感光体、定着器、カートリッジなどを有している。

【0049】続いて、操作手段19の一例となる操作パネル90について説明をする。図2は操作パネル90の構成例を示す上から見た図である。図2に示す操作パネル90は一辺の角が丸みを帯びた長方形を有しており、ユーザが操作し易いように、当該複写機100の原稿読取手段(図示せず)12の手前付近の位置に取付けられている。

【0050】この操作パネル90上には、少なくとも、モードチェンジーキー23、表示手段21、ワンタッチキー91、ストップキー98及びスタートキー911が取付けられている。この例では表示手段21には液晶表示ディスプレイ(LCD)が使用される。この他に表示手段21には、PDP、電界発光ダイオードなどの平面表示素子を使用してもよく、これらの表示装置は操作パネル90のほぼ中央に配置される。表示手段21には、利用者の入力操作性を良くするために、タッチパネルが表示画面上に取付けられる。

【0051】この表示手段21の左側にはワンタッチキー91がマトリクス状に配置され、ワンタッチ送信や同報通信などの特殊の通信モードを実行できるようになされている。表示手段21の右側にはモードチェンジーキー23が設けられ、例えば、モードチェンジーキー23の操作に応じて複写画面及びファクシミリ画面が表示手段21に表示される。

【0052】更に、表示手段21の右側にはモードチェンジーキー23の他に、数字の「1」～「0」や、「*」キー、「#」キーなどの電話番号入力用のテンキー92、チェックボタン93、ヘルプボタン94、アプリケーションボタン95、プログラムボタン96、リセットボタン97、ストップキー98、割り込みコピーボタン99、電源スイッチ910、スタートボタン911などが配置されている。「1」～「3」のテンキー92の配置領域上には2つの発光ダイオードLED1、LED2が取付けられ、ファイルやエラーを区別するような表示をできるようになされている。

【0053】続いて、上述の複合機100でのファクシミリモード時の基本待機画面の表示例について説明をする。図3に示す基本待機画面P0には、「送信できま

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す」のメッセージが表示され、その他に、「追加」キーや件数表示領域が設けられ、例えば、追加したい相手方の電話番号「0426-60-9285」や、追加したい相手先の件数「4件」などが表示される。

【0054】これらの表示領域下には「宛先表」、「原稿設定」、「設定」、「予約リスト」、「原稿読込」などのタグが同一画面上に表示される。この例では各々のタグをタッチするとグレイ表示（反転表示）するようになされている。「宛先表」のタグは基本待機画面P0を宛先表待機画面P1に切替えるときに使用され、「原稿設定」のタグは待機画面を画質選択画面に切替える時に使用される。「設定」のタグは諸事項を登録するときに使用され、「予約リスト」のタグは複写機能、ファクシミリ機能又はプリンタ機能などのジョブの予約時に使用される。「原稿読込」のタグは複数枚送信時や、ADF原稿／プラテン原稿の混載送信時等に原稿を読み込むときに使用される。

【0055】この例では「原稿設定」のタグをタッチした後の原稿設定画面が表示された場合を示している。これらの下方領域には「宛先表」、「テンキー」、「原稿設定」、「予約リスト」、「原稿読込」などのタグが表示される。図3の例では「原稿設定」のタグをタッチした後の「原稿設定」の項目の下位階層の画面内容が表示された場合を示している。この「原稿設定」の項目画面には、「短縮」、「リダイヤル」、「オンフック」、「トーン」、「ポーズ」、「一」、「削除」などのタグが表示される。

【0056】この「短縮」のタグは相手先の電話番号を短縮入力時に使用され、「リダイヤル」のタグは再送信に使用される。「オンフック」のタグは手動送信／手動受信時の回線捕捉に使用され、「トーン」のタグはパルス／トーン音の切替え時に使用される。「ポーズ」のタグは一時停止や、ダイヤルトーン検出時に使用され、「一」のタグはダイヤル入力時にダイヤルN0のセパレータ（ハイフン）として使用される。「削除」のタグは宛先入力データの1文字削除時などに使用される。

【0057】これらの下方領域には、「RDAF」、「解像度」、「画質」、「濃度」などの属性項目が表示され、「RDAF」の下方領域には「表紙＋両面」、「両面」、「片面」などが表示される。「解像度」の下方領域には「高精細」、「精細」、「普通」のタグが表示される。各々の表示に対応したモードで原稿を記録紙に記録できるようになされている。

【0058】「画質」の下方領域には「写真」、「文字写真」、「文字」などのタグが表示され、原稿の画質を設定できるようになされている。「濃度」の下方領域には「自動」、「濃く」、「普通」及び「淡く」などのタグが表示され、各々の表示に対応したコピー濃度で原稿を記録紙に記録できるようになされている。

【0059】続いて、基本待機画面P0の下位階層であ

る宛先表待機画面P1の表示例について説明をする。図4に示す宛先表待機画面P1は図3に示した「宛先表」のタグをタッチした後に、表示手段21上に表示されるものである。この宛先表待機画面P1には「送信できます」のメッセージが表示され、「宛先表」の下位階層の画面には、「グループ」、「短縮」、「リダイヤル」及び「登録」などのタグが表示される。

【0060】この例では「グループ」のタグに関して、例えば「コニカ」のグループとして、短縮番号「01」には「コニカ八王子」が登録され、「02」には「コニカ日野」が登録され、「03」には「コニカ本社」が登録され、以下、短縮番号「12」、「20」、「30」、「40」、「41」、「42」に対して図4に示す名称の相手先が登録された場合を示している。このグループ画面で右側の上向き矢印及び下向き矢印は、宛先名称を検索するためのページアップ・ダウン用のタグである。上向き矢印をタッチすると、グループの宛先名称が上方向にページめくりするように表示が順次切り替わり、下向き矢印をタッチすると、そのグループの宛先名称が下方向に表示が順次切り替わるようになされている。

【0061】続いて、宛先表待機画面P1の下位階層である宛先登録画面P2の表示例について説明をする。図5に示す宛先登録画面P2は図4に示した宛先表待機画面中の「登録」のタグをタッチした後に、表示手段21上に表示されるものである。この宛先登録画面P2には「宛先登録できます」及び「項目を選択してください」のメッセージが表示され、「短縮登録／編集」、「短縮一覧／検索」「プログラム登録／編集」、「プログラム一覧」、「グループ登録・編集」などのタグが表示される。

【0062】これらのいずれかのタグをタッチすると、以下で説明する短縮ダイヤル追加／編集画面P3、短縮ダイヤル一覧表示画面P4、短縮宛先名前検索画面P5、グループ選択画面P6、グループ宛先登録画面P7、グループ名前登録画面P8及びグループ宛先確認画面P9などの表示に切替えることができる。この宛先登録画面P2の同一画面内の右下側には「戻る」のタグが準備され、宛先登録画面P2を宛先表待機画面P1に戻すときに使用される。

【0063】続いて、宛先登録画面P2の下位階層である短縮ダイヤル追加／編集画面P3の表示例について説明をする。図6に示す短縮ダイヤル追加／編集画面P3は図5に示した宛先登録画面P2の「短縮登録／編集」のタグをタッチした後に、表示手段21上に表示されるものである。

【0064】この短縮ダイヤル追加／編集画面P3には「短縮登録／編集できます」のメッセージが表示され、「短縮N0」のタグや、その短縮番号として「99」が表示される。これらの下方領域には、「ダイヤルN0」

のタグが設けられ、その右側には「0426-60-9291」などの相手先の電話番号を表示する領域が準備されている。その下方領域には「内線」、「トーン」、「ポーズ」「ー」及び「削除」などのタグが表示される。

【0065】更に、その下方領域には「名前」や、その例として「コニカ（株）2開発センター」などを表示する領域が準備されている。更に下方領域には「検索文字」のタグや、その例として「か」などを表示する領域が準備され、その下方領域にはひらがなの頭文字である「あ」、「か」、「さ」、「た」、「な」、「は」、「ま」、「や」、「ら」、「わ」のタグが準備され、その端には「英数字」のタグが準備されている。

【0066】この「検索文字」のタグをタッチすると、以下で説明する短縮宛先名前検索画面P5に表示に切替えることができる。この短縮ダイヤル追加／編集画面P3の同一画面内の右下側には「登録」及び「戻る」のタグが準備され、相手先の電話番号を短縮番号で登録するときには「登録」のタグが使用される。また、「戻る」のタグは短縮ダイヤル追加／編集画面P3を宛先登録画面P2に戻すときに使用される。

【0067】続いて、宛先表待機画面P1の他の下位階層である短縮ダイヤル一覧表示画面P4の表示例について説明をする。図7に示す短縮ダイヤル一覧表示画面P4は図4に示した宛先表待機画面中の「短縮一覧／検索」のタグをタッチした後に、表示手段21上に表示されるものである。この短縮ダイヤル一覧表示画面P4には「短縮一覧」及び「短縮N0と項目を選択してください」のメッセージが表示され、「短縮N0」のタグや、その短縮番号で登録しようとする「宛先名」の表示領域が準備されている。

【0068】この例では「短縮N0」に関して、例えば、短縮番号「01」には「コニカ八王子」が登録され、「02」には「コニカ日野」が登録され、「03」には「コニカ開発G」が登録され、以下、短縮番号「04」、「05」、「06」に対して図7に示す名称の相手先が登録された場合を示している。この例で短縮番号「07」は未登録となっている。

【0069】この「短縮N0」の画面で右側の上向き矢印及び下向き矢印は、宛先名称を検索するためのカーソル用のタグである。上向き矢印をタッチすると、宛先名称上を上方向にカーソルが移動し、下向き矢印をタッチすると、宛先名称上を下方向にカーソルが移動するようになされている。このカーソル用のタグの他に左下側にはページアップ・ダウン用のタグも設けられ、「宛先名」の表示画面がページめくりするようになされている。その隣には「編集」、「削除」、「検索」のタグが準備されている。

【0070】この「編集」のタグはカーソルで選択した短縮登録内容の修正時に使用され、「削除」のタグはカ

ーソルで選択した短縮登録内容の削除時に使用され、「検索」のタグは「検索文字」のタグと同じ性質であり、短縮宛先名前検索画面P5の表示に切替える時などに使用される。この「検索」のタグの隣には、「戻る」のタグが準備され、短縮ダイヤル一覧表示画面P4を宛先表待機画面P1に戻すときに使用される。この例では短縮番号「03」のコニカ2開発Gが選択され、その部分がグレイ表示された場合を示している。

【0071】続いて、短縮ダイヤル一覧表示画面P4の下位階層である短縮宛先名前検索画面P5の表示例について説明をする。図8に示す短縮宛先名前検索画面P5は図7に示した短縮ダイヤル一覧表示画面P4の「検索」のタグをタッチした後に、表示手段21上に表示されるものである。

【0072】この短縮宛先名前検索画面P5には「短縮名検索」及び「検索文字と項目を選択して下さい」のメッセージが表示され、その下方領域には、ひらがなの頭文字である「あ」、「か」、「さ」、「た」、「な」、「は」、「ま」、「や」、「ら」、「わ」のタグが準備され、その端には「英数字」のタグが準備されている。この下方領域には「宛先名」の表示画面に関して、例えば、短縮番号「01」には「コニカ八王子」が登録され、「02」には「コニカ日野」が登録され、「03」には「コニカ本社」が登録され、短縮番号「12」には「コニカ2開発G」が登録され、以下、「20」、「30」、「50」、「89」、「99」、「*11」及び「*33」に対して図8に示す名称の相手先が登録された場合を示している。この例では、ひらがなの「か」のタグをタッチしたことによって、短縮番号「12」の「コニカ2開発G」が選択され、そのタグ部分がグレイ表示された場合を示している。

【0073】この短縮宛先名前検索画面P5でも左下側にはページアップ・ダウン用のタグが設けられ、その他に「編集」、「削除」及び「戻る」のタグが準備されている。この「戻る」のタグは短縮宛先名前検索画面P5を短縮ダイヤル一覧表示画面P4に戻すときに使用される。

【0074】続いて、宛先登録画面P2の下位階層であるグループ選択画面P6の表示例について説明をする。図9に示すグループ選択画面P6はグループ登録画面の主要部を成すもので、図5に示した宛先登録画面P2の「グループ登録／編集」のタグをタッチした後に、表示手段21上に表示されるものである。

【0075】このグループ選択画面P6には「グループダイヤルの登録／編集できます」及び「グループと項目を選択してください」のメッセージが表示され、「N0」、「グループ名」及び「宛先」の項目が表示される。この「N0」のタグに関しては、例えば、通し番号「01」～「08」が表示され、「グループ名」に関しては、その通し番号に対応して、例えば、「コニカ

(株) 本社」、「八王子」、「未登録」、「未登録」・
・ ・ ・などが表示される。

【0076】この「宛先」に関しては、「コニカ(株) 本社」に対応して短縮番号「01」、「03」、「44」「*20」のグループ登録内容が表示され、「八王子」に対応して短縮番号「01」、「32」、「44」「*99」グループ登録内容が表示される。このグループ画面で右側の上向き矢印及び下向き矢印は、グループ名に対する宛先を検索するためのカーソル用のタグである。上向き矢印をタッチすると、そのカーソルがグループ名及び宛先上を上方にスライドし、下向き矢印をタッチすると、そのカーソルがグループ名及び宛先上を下方にスライドするようになされている。この例ではカーソル部分がグレイ表示されて見やすくなされている。

【0077】この表示画面の下方領域には「宛先登録」、「名前登録」、「宛先確認」及び「戻る」のタグが設けられている。「宛先登録」のタグはグループ宛先登録するときに使用され、「名前登録」のタグはカーソルで選択したグループ名の編集や、名前入力画面に切替えるときに使用される。「宛先確認」のタグはグループ宛先を確認するときに使用される。「戻る」のタグはグループ選択画面P6を宛先登録画面P2に戻すときに使用される。

【0078】この例では「宛先登録」のタグをタッチすると、グループ宛先登録画面P7に表示が切り替わるようになされている。また、この例では、「未登録」のタグにカーソルを選択した場合を示しており、「宛先確認」のタグを選択することで、グループ宛先の詳細を確認できるようになされている。

【0079】続いて、グループ選択画面P6の下位階層であるグループ宛先登録画面P7の表示例について説明をする。図10に示すグループ宛先登録画面P7は図9に示したグループ選択画面P6の「宛先登録」のタグをタッチした後に、表示手段21上に表示されるものである。この例でグループダイヤルには短縮N0のみを登録することができ、最大で200局の宛先が登録できるようになされている。

【0080】このグループ宛先登録画面P7には、例えば、「グループ3 (名前: 未登録/宛先数4に登録する宛先を選択してください)」のメッセージが表示され、「N0 順表示」及び「名前検索」の項目が表示される。「N0 順表示」のタグはグループ宛先を通し番号順に表示するときに使用され、「名前検索」のタグはグループの宛先名を検索するときに使用される。

【0081】この項目の下方領域には「00〜」、「50〜」、「*00〜」、「*50〜」が表示され、指定短縮番号へジャンプする際のショートカット用のタグである。

【0082】このショートカット用の下方領域には、例えば、グループ3の宛先として、通し番号「01」〜

「12」に「コニカ八王子」、「コニカ日野」、「コニカ本社」・ ・ ・「コニカ2開発G」などが表示される。

【0083】なお、このグループ宛先登録画面P7で左下側の上向き矢印及び下向き矢印は、グループ宛先を検索するためのページアップ・ダウン用のタグである。上向き矢印をタッチすると、そのグループの宛先名を上方にページめくりするように表示され、下向き矢印をタッチすると、そのグループの宛先名を下方にページめくりするように表示が切替えられる。

【0084】このページアップ・ダウン用のタグの右側領域には「登録」及び「戻る」のタグが設けられている。「登録」はグループ宛先登録するときに使用され、「戻る」はグループ宛先登録画面P7をグループ選択画面P6に戻すときに使用される。この例では「N0 順表示」のタグをタッチした後に、グループ3の宛先として例えば「コニカ八王子」、「コニカ日野」、「コニカ本社」及び「コニカ2開発G」が選択され、その短縮番号「01」、「02」、「03」、「12」が登録された場合を示している。タッチされた各々のタグがグレイ表示される。

【0085】続いて、グループ宛先登録画面P7の下位階層であるグループ名前登録画面P8の表示例について説明をする。図10に示すグループ名前登録画面P8は同図10に示したグループ宛先登録画面P7の「名前検索」のタグをタッチした後に、表示手段21上に表示されるものである。

【0086】このグループ名前登録画面P8には、上述のグループ宛先登録画面P7と同じメッセージが表示され、「名前検索」の項目がグレイ表示される。この項目の下方領域には、ひらがなの頭文字「あ」、「か」、「さ」、「た」、「な」、「は」、「ま」、「や」、「ら」、「わ」のタグが準備され、その端には「英数字」のタグが準備されている。この例では、「か」のタグをタッチすると、例えば、短縮番号「01」の「コニカ八王子」、「02」の「コニカ日野」、「03」の「コニカ本社」及び「12」の「コニカ2開発G」のタグがグレイ表示され、グループ3に登録された4件の宛先名が検索できるようになされている。

【0087】なお、このグループ名前登録画面P8で左下側の上向き矢印及び下向き矢印は、グループ名前を検索するためのページアップ・ダウン用のタグである。上向き矢印をタッチすると、そのグループの名前を上方にページめくりするように表示され、下向き矢印をタッチすると、そのグループの名前を下方にページめくりするように表示を切り替えるようになされている。

【0088】このページアップ・ダウン用のタグの右側領域には「登録」及び「戻る」のタグが設けられている。「登録」はグループ名前登録するときに使用され、「戻る」はグループ名前登録画面P8をグループ宛先登録画面P7に戻すときに使用される。この例では「N0

順表示」のタグをタッチした場合でも、グループ名前登録画面P8をグループ宛先登録画面P7に戻すことができる。

【0089】続いて、グループ選択画面P6の下位階層であるグループ宛先確認画面P9の表示例について説明をする。図11に示すグループ宛先確認画面P9は図9に示したグループ選択画面P6の「宛先確認」のタグをタッチした後に、表示手段21上に表示されるものである。

【0090】このグループ宛先確認画面P9には、例えば、「グループ3（名前：未登録／宛先数7の登録内容を確認できます）」のメッセージが表示され、「短縮N0」及び「宛先名」の項目が表示される。例えば、カーソル用のタグで指示した短縮番号「03」の「コニカ（株）2開センター」がグレイ表示され、グループ3に登録されていることが確認できるようになされている。このカーソル用のタグの他に左下側にはページアップ・ダウン用のタグも設けられ、「短縮N0」の画面がページめくりするようになされている。

【0091】このページアップ・ダウン用のタグの右側には「削除」及び「戻る」のタグが設けられている。この「削除」のタグは、グループの名前を削除するときに使用され、「戻る」はグループ宛先確認画面P9をグループ選択画面P6に戻すときに使用される。

【0092】次に、実施形態としての第1の複合機を応用した複合機100のファクシミリ機能に係るグループの宛先の追加、修正、削除時の操作例について説明をする。この例では、既にモードチェンジキー23が押下されて、基本待機画面（原稿設定）P0が表示手段21に表示されている場合を想定する。

【0093】① グループの宛先を追加する場合
まず、図3に示した基本待機画面P0の「宛先表」のタグをタッチして図4に示すような宛先表待機画面P1を表示手段21に表示する。その後、宛先表待機画面P1内の「登録」のタグをタッチして、図5に示したような宛先登録画面P2を表示手段21に表示する。

【0094】その後、宛先登録画面P2内の「グループ登録／編集」のタグをタッチして、図9に示したグループ選択画面P6を表示手段21に表示する。そして、グループ選択画面P6でグレイ表示された未登録の領域を選択する。その後、グループ選択画面P6内の「宛先登録」のタグをタッチして、図10に示したグループ宛先登録画面P7を表示手段21に表示する。

【0095】ここで、例えば、グループ3に登録する宛先を選択するために、グループ宛先登録画面P7内の「名前検索」のタグをタッチすると、グループ名前登録画面P8が表示手段21に表示される。グループ名前登録画面P8では例えば、短縮番号「01」に対して「コニカ八王子」、「02」に対して「コニカ日野」、「03」に対して「コニカ本社」が表示され、・・・以下

び短縮番号「*33」に対して「（株）ABC」が表示される。この例で、「か」のタグをタッチすると、グループ名前の候補として、例えば、短縮番号「01」の「コニカ八王子」、「02」の「コニカ日野」、「03」の「コニカ本社」及び「12」の「コニカ2開G」がグレイ表示される。

【0096】グループ宛先登録画面P7で「登録」のタグをタッチすると、グループ選択画面P6に表示が切替えられる。その後、「宛先確認」のタグをタッチすると、図11に移行して、短縮番号「01」の「コニカ八王子」、「02」の「コニカ日野」、「03」の「コニカ本社」及び「12」の「コニカ2開G」を追加することができ、それをグループ宛先登録画面P7で確認することができる。

【0097】② グループの宛先を修正する場合
上述した図4に示したような宛先登録画面P2を表示手段21に表示する。その後、宛先登録画面P2内の「短縮登録／編集」のタグをタッチして、図6に示した短縮ダイヤル追加／編集画面P3を表示手段21に表示する。そして、「短縮N0」として例えば「99」を指定し、新しいダイヤル番号として、「0426-60-9291」をテンキー92を使用して入力し、「検索文字」の「か」のタグを選択して、名前「コニカ（株）2開発センター」などを登録し直す。これにより、グループの宛先を修正することができる。

【0098】③ グループの宛先を削除する場合
上述した図5に示すような宛先登録画面P2を表示手段21に表示する。その後、宛先登録画面P2内の「短縮一覧／検索」のタグをタッチして、図7に示した短縮ダイヤル一覧表示画面P4を表示手段21に表示する。そして、短縮ダイヤル一覧表示画面P4でカーソル用のタグを削除したい、例えば、短縮番号「03」の「コニカ2開G」に合わせる。このカーソルの部分がグレイ表示されるので、その同一画面内の「削除」のタグをタッチすると、そのグレイ表示された部分の宛先を削除することができ、その後、グループ選択画面P6内の「宛先登録」のタグから、その短縮番号「03」の「コニカ2開G」を削除することができる。

【0099】このように、第1の実施形態としての複合機を応用した複合機100によれば、予め階層構造の表示画面が準備されるので、表示手段21のグループ選択画面で、複数の相手先がグループとして登録され、通信プログラムの相手先としてグループが指定できると共に、そのグループ選択画面から相手先の追加、削除、修正ができる。従って、通信プログラムの相手先を設定するに際して、キー情報の入力操作性を向上させることができる。

【0100】本実施の形態では、従来方式のように「1：追加」、「2：削除」、「3：送信スタート」などのキー情報が1つの画面内には表示されないで、ユ

一ザがキー情報の選択を誤って操作するおそれなくなる。従って、通信プログラムの相手先を変更する際に、既存の相手先の電話番号を削除してしまったり、通信プログラムに間違えて宛先を登録してしまうおそれなくなる。

【0101】続いて、複合機100のワンタッチ・プログラム登録画面について説明する。図12は複合機100のワンタッチ・プログラム登録画面の表示遷移例を示す図である。図13はそのプログラム登録/編集画面P11、P12の表示例及びその遷移例を示す図である。図14は他の表示例及び遷移例を示している。

【0102】この例では第1の実施形態の宛先登録画面P2で「プログラム登録/編集」又は「プログラム一覧」のタグを選択した場合に、ワンタッチ・プログラムキーへの登録・編集を行うための画面が図2に示した表示手段21に表示されるものである。

【0103】例えば、図12に示す宛先登録画面P2で「プログラム一覧」のタグをタッチすると、プログラム一覧表示画面P10が表示手段21に表示され、その宛先登録画面P2で「プログラム登録/編集」のタグをタ
 20 ャッチした場合でも、プログラム一覧表示画面P10を表示手段21に表示するようになされている。このプログラム一覧表示画面P10には「プログラム登録一覧」及び「項目を選択してください」のメッセージが表示され、「N0」のタグや、「宛先設定」、「原稿設定」、「応用設定」などの項目が準備されている。

【0104】この例では、登録内容の一覧表示に関して、例えば、短縮番号「01」には「コニカ（株）本社」が登録され、「02」には「コニカ（株）八王子」が登録され、「03」には「コニカ（株）2開センタ
 30 ー」が登録され、以下の短縮番号「04」、「05」、「06」に対しては未登録の場合を示している。この例で短縮番号「03」の「コニカ（株）2開センター」が選択され、その部分がグレイ表示され、その短縮番号「03」がワンタッチ番号となる。

【0105】この「宛先設定」の画面で右側の上向き矢印及び下向き矢印は、宛先名称を検索するためのカーソル用のタグである。上向き矢印をタッチすると、宛先名称上を上方向にカーソルが移動し、下向き矢印をタッチすると、宛先名称上を下方向にカーソルが移動するよう
 40 になされている。このカーソル用のタグの他に左下側にはページアップ・ダウン用のタグも設けられ、「宛先設定」の画面がページめくりするようになされている。その隣には「チェック」、「編集」、「削除」、「戻る」のタグが準備されている。

【0106】この「チェック」のタグは宛先設定内容をチェック画面に切り替えるときや、宛先の詳細を確認するときに使用される。「編集」のタグはカーソルで選択した宛先設定内容の修正時に使用され、「削除」のタグはカーソルで選択した宛先設定内容の削除時に使用さ
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れ、「戻る」のタグは、直前の画面に戻すときに使用される。この例では「戻る」のタグをタッチすると、プログラム一覧表示画面P10から宛先登録画面P2へ表示が戻るようになる。

【0107】続いて、プログラム一覧表示画面P10の下位階層であるプログラム登録画面P11の表示例について説明をする。図13に示すプログラム登録画面P11は図12に示したプログラム一覧表示画面P10の「編集」のタグをタッチした後に、表示手段21上に表示されるものである。

【0108】このプログラム登録画面P11には「プログラム登録/編集できます」及び「項目を設定して下さい」のメッセージが表示され、「プログラムN0」のタグや、その短縮番号として「01」が表示される。これらの下方領域には、「宛先N0」のタグが設けられ、その右側には「0426-60-9291」などの相手先の電話番号を表示する領域が準備されている。その下方領域には「内線」、「短縮」、「グループ」、「トーン」、「ポーズ」「ー」及び「削除」などのタグが表示
 される。「グループ」のタグは、宛先としてグループを登録するときに使用される。「内線」、「短縮」、「トーン」、「ポーズ」「ー」及び「削除」については第1の実施形態で説明した通りである。

【0109】更に、その下方領域には「名前」のタグや、その例として「コニカ（株）2開発センター」などを表示する領域が準備されている。更に下方領域には「原稿設定」のタグや、「応用通信モード設定」などのタグが準備されている。

【0110】この「原稿設定」のタグは、第1の実施形態の基本待機画面（原稿設定）P0で説明した「原稿設定」と同じ内容であり、この「原稿設定」のタグをタッチすると、「RDAF」、「解像度」、「画質」、「濃度」などの属性が表示され、各々の表示に対応したモードで原稿を設定することができる。

【0111】また、「応用通信モード設定」のタグは、「2in1送信」、「ページ連写送信」、「枠消し送信」、「混載原稿送信」、「タイマー送信」、「ポーリング送信」、「原稿枚数設定送信」、「海外通信モード送信」又は「ECMオフ送信」などの特殊な送信方法を行うときに使用される。この例でも、タッチされた項目がグレイ表示される。

【0112】これらの下方領域には「チェック」、「登録」及び「戻る」のタグが準備されており、「登録」又は「戻る」のタグをタッチすると、宛先登録画面P2に表示が戻るようになされている。従って、宛先登録画面P2と、プログラム一覧表示画面P10と、プログラム登録画面P11とは循環表示（ローテーション）するよう
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【0113】続いて、プログラム登録画面P11の下位階層である原稿設定に係るプログラム登録画面P12の

表示例について説明をする。図13に示す原稿設定に係るプログラム登録画面P12は同図に示したプログラム登録画面P11の「原稿設定」のタグをタッチした後に、表示手段21上に表示されるものである。

【0114】このプログラム登録画面P12には上述と同じメッセージが表示されるが、「原稿設定」のタグの内容が表示される。「RDAF」の下方領域には「表紙+両面」、「両面」、「片面」などのタグが表示される。「解像度」の下方領域には「高精細」、「精細」、「普通」などのタグが表示される。各々の表示に対応したモードで原稿を記録紙に記録できるようになされている。

【0115】この「画質」の下方領域には「写真」、「文字写真」、「文字」などのタグが表示され、原稿の画質を設定できるようになされている。「濃度」の下方領域には「自動」、「濃く」、「普通」及び「淡く」などのタグが表示され、各々の表示に対応したコピー濃度で原稿を記録紙に記録できるようになされている。このワンタッチプログラム登録画面からも、各々の表示に対応したモードで原稿を設定することができる。

【0116】このプログラム登録画面P12の右下側には「キャンセル」及び「設定」のタグが準備されている。「キャンセル」又は「設定」のタグをタッチすると、プログラム登録画面P12から1つ前のプログラム登録画面P11に表示が戻るようになされている。

【0117】続いて、プログラム登録画面P11の他の下位階層である応用通信モード設定に係るプログラム登録画面P13の表示例について説明をする。図14に示す応用通信モード設定に係るプログラム登録画面P13は同図に示したプログラム登録画面P11の「応用通信モード設定」のタグをタッチした後に、表示手段21上に表示されるものである。

【0118】このプログラム登録画面P13には「プログラム登録/編集できます」及び「応用通信モードを設定して下さい」のメッセージが表示され、「2in1送信」、「ページ連写送信」、「枠消し送信」、「混載原稿送信」、「タイマー送信」、「ポーリング送信」、「原稿枚数設定送信」、「海外通信モード送信」又は「ECMオフ送信」などのタグが表示される。「2in1送信」のタグは2つの原稿を1つにまとめて送信する2in1送信のオン・オフを設定するときに使用され、「ページ連写送信」のタグは、ページ連写モードの選択画面に切替えるときに使用される。

【0119】この「枠消し送信」のタグは、原稿の枠消し送信の選択画面に切り替えるときに使用され、「混載原稿送信」のタグは種々の大きさの原稿を取り混ぜて送信する混載原稿モードのオン・オフを設定するときに使用される。「タイマー送信」のタグは通信開始時刻設定画面に切替えるときに使用され、「ポーリング送信」のタグはポーリング受信モードのオン・オフを設定すると

きに使用される。「原稿枚数設定送信」のタグは原稿枚数設定画面に切替えるときに使用され、「海外通信モード送信」のタグは海外通信モードのオン・オフを設定するときに使用される。「ECMオフ送信」のタグはECMのオン・オフの設定するときに使用される。

【0120】この例では「2in1送信」のタグがタッチされ、その部分がグレイ表示された場合を示している。このプログラム登録画面P14の右下側には「キャンセル」及び「設定」のタグが準備されている。「キャンセル」又は「設定」のタグをタッチすると、プログラム登録画面P14からプログラム登録画面P11へ表示が戻るようになされている。

【0121】(2)複合機100の通信プログラムの登録例

図15～図17は複合機100の通信プログラムの登録例を示すフローチャートである。この例でも、既にモードチェンジキー23が押下されて、基本待機画面(原稿設定)P0が表示手段21に表示されている場合を想定する。そして、基本待機画面P0から宛先表示待機画面P1、宛先登録画面P2、プログラム一覧表示画面P10の順に表示が遷移する場合であって、例えば、グループの宛先に短縮番号「03」の「コニカ(株)2開センター」をワンタッチ・プログラム登録する場合について説明する。

【0122】これを前提にして、まず、図15に示すフローチャートのステップA1で例えば宛先表示待機画面P1上で「登録」のタグ(以下登録ボタンともいう)が押下されるのを待つ。ユーザによって登録ボタンが押下された場合には、図4に示した宛先表示待機画面P1から図5に示した宛先登録画面P2が表示され、この宛先登録画面P2で「プログラム登録/編集」のタグをタッチしたのと同じ効果で、図12に示したプログラム一覧表示画面P10が表示手段21に表示される。そして、ステップA2に移行してプログラム一覧表示画面P10上でプログラムNOをクリアする。例えば、プログラム登録一覧表示画面P10でグレイ表示されたワンタッチ番号「03」の「コニカ(株)2開センター」を選択する。

【0123】その後、ステップA3に移行して図13に示したプログラム登録画面P11が表示手段21に表示され、プログラムNOが表示される。そして、ステップA4で制御手段11はテンキー92が押下されるのを待つ。ユーザによって、例えば、「0426-60-9291」などのテンキー92が押下された場合には、ステップA5に移行してプログラム登録画面P11で「宛先」のタグ(以下宛先ボタンという)が押下されるのを待つ。ユーザによって宛先ボタンが押下された場合には、ステップA6に移行して当該プログラムNOデータが不揮発メモリ31から読み出されてバッファメモリ32にセットされる。

【0124】その後、ステップA7に移行してプログラムNOデータが表示手段21に表示される。そして、ステップA8でテンキー92又は「宛先」関連ボタンが押下されるのを待つ。ユーザによって「宛先」関連ボタンなどが押下された場合には、図16に示すフローチャートのステップA9に移行して表示手段21に宛先が表示される。例えば、プログラム登録/編集画面P11内で、プログラムNOとして「01」、宛先NOとして「0426-60-9291」が登録される。

【0125】その後、ステップA10に移行して「名前」のタグが押下されたか否かが判別される。ユーザによって「名前」のタグが押下された場合には、ステップA11に移行して表示手段21で、プログラム登録/編集画面P11から図示しない名前入力画面に遷移される（名前検索画面P8に類似：図8参照）。ここで、名前については「コニカ（株）2開センター」が入力される。そして、ステップA12で名前入力画面で「キャンセル」か、又は、「設定」が指示されるのを待つ。ここで、「キャンセル」の場合にはステップA10へ戻る。このステップA10で「名前」のタグが押下されなかった場合、及び、ステップA12で名前を「設定」する場合にはステップA13に移行する。この名前の「設定」又は「キャンセル」によって、表示手段21では、名前入力画面からプログラム登録一覧表示画面P10へ表示が遷移する。

【0126】また、ステップA13ではプログラム登録一覧表示画面P10上で、「原稿設定」のタグが押下されたか否かが判別される。ユーザによって「原稿設定」のタグが押下された場合には、ステップA14に移行して図13に示したプログラム登録画面P12が表示手段21によって表示され、この登録画面P12上に原稿設定画面が表示される。

【0127】そして、ステップA15で原稿設定画面で「RDAF」、「解像度」、「画質」及び「濃度」などの設定項目に関して「キャンセル」か、又は、「設定」が指示されるのを待つ。ここで、「キャンセル」の場合にはステップA13へ戻る。このステップA13で「原稿設定」のタグが押下されなかった場合、及び、ステップA15で「RDAF」、「解像度」、「画質」及び「濃度」などの設定項目に関して「設定」をする場合には、ステップA16に移行され、表示手段21によってプログラム登録画面P12からプログラム登録一覧表示画面P10へ表示が遷移される。

【0128】更に、ステップA16ではプログラム登録一覧表示画面P10で応用通信モードの「設定」のタグが押下されたか否かが制御手段11によって判別される。ユーザによって応用通信モードの「設定」のタグが押下された場合には、ステップA17に移行して、表示手段21によりプログラム登録画面P13が表示され、その登録画面P13で応用通信モードの設定画面が表示

される。

【0129】そして、ステップA18でプログラム登録画面P13で「2in1送信」、「ページ連写送信」、「枠消し送信」、「混載原稿送信」、「タイマー送信」、「ポーリング送信」、「原稿枚数設定送信」、「海外通信モード送信」又は「ECMオフ送信」などの設定項目に関して「キャンセル」か、又は、「設定」が指示されるのを待つ。ここで、「キャンセル」の場合にはステップA16へ戻る。このステップA16で応用通信モードの「設定」のタグが押下されなかった場合、及び、ステップA18で「2in1送信」、「ページ連写送信」、「枠消し送信」、「混載原稿送信」、「タイマー送信」、「ポーリング送信」、「原稿枚数設定送信」、「海外通信モード送信」又は「ECMオフ送信」などの設定項目に関して「設定」をする場合には、図17に示すフローチャートのステップA19に移行して、表示手段21によりプログラム登録画面P13からプログラム登録一覧表示画面P10に表示が遷移される。

【0130】このステップA19ではプログラム登録一覧表示画面P10上で「チェック」のタグが押下されたか否かが判別される。ユーザによって「チェック」のタグが押下された場合には、ステップA20に移行して表示手段21によってチェック画面に遷移される。このとき、操作パネル90のチェックボタン93によっても、プログラム登録内容をチェックすることができる。

【0131】そして、ステップA21でそのチェック画面で「戻る」のタグが押下されたか否かを判別する。ここで、「戻る」のタグが押下された場合にはステップA19へ戻る。このステップA19で「チェック」のタグが押下されなかった場合、及び、ステップA21で「戻る」のタグが押下されない場合にはステップA22に移行して、表示手段21によりプログラム登録一覧表示画面P10からプログラム登録画面P11に表示が遷移される。

【0132】このステップA22ではプログラム登録画面P11上で登録ボタンが押下されるのを待つ。ここで、登録ボタンが押下された場合にはステップA23へ移行する。このステップA23では登録処理をする。ここでグループの宛先にワンタッチ・プログラム登録された短縮番号「03」の「コニカ（株）2開センター」のデータは、不揮発メモリ31に記憶される。

【0133】その後、ステップA24に移行して、プログラム登録画面P11上で「戻る」のタグが押下されたか否かを監視する。ここで、「戻る」のタグが押下された場合にはステップA25に移行してプログラム登録一覧表示画面P10から、宛先登録画面P2、宛先表示待機画面P1、基本待機画面P0などの前画面に表示が遷移される。

【0134】従って、ユーザは「宛先」にグループNOをワンタッチ・プログラム登録する場合などにおいて、

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ワンタッチキー91で「宛先」を選択できるので、各々のモードに関して複写機能や、ファクシミリ機能などの動作条件を従来方式に比べてスピーディに、しかも、最適に設定することができる。

【0135】(3)複合機100のFAX送信時の第1の動作例

図18は実施形態としての通信方法を応用した複合機100のFAX送信時の第1の動作例を示すフローチャートである。この例では、ワンタッチキー91による自動発呼モードの実行中にストップキー98が押下された場合には、自動的に手動発呼モードに移行するようになされたものである。そして、図18に示すフローチャートのステップB1～B3、ステップB7及びステップB15でテンキー92による手動発呼モードが実行され、そのステップB4～B6、ステップB7及びステップB15で短縮キー92'による手動発呼モードが実行され、そのステップB8～B12、ステップB14及びステップB15でワンタッチキー91による自動発呼モードが実行される。

【0136】これを前提にして、テンキー92による手動発呼モードでは、まず、図15に示すフローチャートのステップB1でテンキー92が押下されたか否かが制御手段11によって検出される。このテンキー92がユーザによって押下された場合には、ステップB2に移行する。ステップB2では相手先の電話番号が全部入力されるのを待つ。相手先の電話番号が全部入力された場合にはステップB3に移行して相手先の電話番号が表示手段21に宛先表示される。この際の表示手段21には図3に示した基本待機画面P0又は宛先表待機画面P1が表示される。

【0137】その後、ステップB7に移行して制御手段11はユーザによってスタートキー911が押下されるのを待つ。スタートキー911が押下された場合にはステップB15に移行してFAX送信処理が実行される。この際に、手動発呼モードによって発生した開始指令信号を入力した通信手段14では、通信回線を介して所定の通信手順で相手先の通信端末に対し原稿送信動作が実行される。これにより、テンキー92による手動発呼モードによって相手先装置に原稿画像を送信することができる。

【0138】また、短縮キー92'による手動発呼モードでは、図18に示すフローチャートのステップB1でテンキー92が押されないの、ステップB4に移行して短縮キー92'が押下されたか否かが制御手段11によって検出される。短縮キー92'が押下された場合には、ステップB5に移行する。ステップB5では不揮発メモリ31に登録されている対応相手先が制御手段11によってバッファメモリ32にセットされる。

【0139】その後、ステップB6に移行して相手先の電話番号が表示手段21に宛先表示される。この際の表

示手段21には図3に示した宛先表待機画面P1などが表示される。そして、ステップB7に移行してスタートキー911が押下されるのを待つ。スタートキー911が押下された場合にはステップB15に移行してFAX送信処理が実行される。この際にも、手動発呼モードによる開始指令信号を入力した通信手段14で、通信回線を介して所定の通信手順で相手先の通信端末に対し原稿送信動作が実行される。これにより、短縮キー92'による手動発呼モードによって相手先装置に原稿画像を送信することができる。

【0140】更に、ワンタッチキー91による自動発呼モードでは、図18に示すフローチャートのステップB4で短縮キー92'が押されないの、ステップB4に移行してワンタッチキー91が押下されたか否かが制御手段11によって検出される。ワンタッチキー91が押下された場合には、ステップB9に移行する。ステップB9では不揮発メモリ31に登録されている対応相手先が制御手段11によってバッファメモリ32にセットされる。その後、ステップB10に移行して相手先の電話番号が表示手段21に宛先表示される。この際の表示手段21には図3に示した宛先表待機画面P1などが表示される。

【0141】そして、ステップB11に移行してワンタッチタイマが起動される。このタイマセットは一定時間経過後に原稿画像を相手方装置に自動送信するためである。その後、ステップB12で制御手段11によってストップキー98が押下されたかが監視される。ストップキー98が押されずにタイムアップした場合にはステップB15に移行してFAX送信処理が実行される。この際には、自動発呼モードによって発生した開始指令信号を入力した通信手段14で、通信回線を介して所定の通信手順で相手先の通信端末に対し原稿送信動作が実行される。これにより、ワンタッチキー91による自動発呼モードによって相手先装置に原稿画像を送信することができる。

【0142】そして、ステップB12でストップキー98が押下された場合には、ステップB13に移行して、バッファメモリ32に記憶内容がクリアされ、自動発呼モードが中止され、ステップB1に戻って手動発呼モードに移行される。この際に、図3に示した宛先表待機画面P1などが表示手段21に表示され、この画面で、既に不揮発メモリ31に登録された相手先を含む通信プログラムに、ユーザによって新たな相手先番号や、グループ番号が追加され、又は、その通信プログラムの内容が変更される。その後のキー入力操作及びデータ処理は上述した通りである。

【0143】このように、本実施形態としての通信方法を応用した複合機100によれば、図18に示したフローチャートのステップB8でワンタッチキー91が押下された後に、ステップB12でストップキー98が押下

されたことで、予め登録された相手先を含む通信プログラムによって、制御手段11により自動発呼モードを実行しないと判別された場合には、ステップB13で自動発呼モードを中止してステップB1に戻って手動発呼モードが実行される。

【0144】従って、そのフローチャートのステップB3や、ステップB6で宛先表待機画面P1などを表示手段21に表示して、既に登録された相手先を含む通信プログラムに相手先番号や、グループ番号を追加したり、その通信プログラムの内容を変更したりすることができる。これにより、スタートキー911の入力によって、新たに登録された相手先に手動発呼モードによって発呼開始することができるので、ワンタッチキー91の利用範囲及びその利用価値を大幅に拡大かつ向上させることができる。

【0145】(4)複合機100のFAX送信時の第2の動作例

図19及び図20は、複合機100のワンタッチキー91による複数宛先送信時の動作例(その1、2)を示すフローチャートである。

【0146】この例では、ワンタッチキー91による自動発呼モードを実行する場合であって、ワンタッチ・プログラム登録項目に未設定項目が有った場合であって、そのワンタッチキー91が押下された後に、自動発呼モードを中止して手動発呼モードに移行し、その未設定項目を登録し、予め不揮発メモリ32に登録されていた設定項目と、新たに登録した設定項目とを合成した通信プログラムに基づいて送信処理を実行する場合を想定する。

【0147】この例では、図19に示すフローチャートのステップC1～ステップC10、ステップC14で通常のワンタッチキー91による自動発呼モードを実行する。そして、ワンタッチ・プログラム登録項目に例えば複数宛先の「設定」がなされていない場合には、そのステップC1～ステップC7で自動発呼モードを途中まで実行するが、ステップC11で自動発呼モードを中止して手動発呼モードに移行し、その後、ステップC12～ステップC14で手動発呼モードを実行する場合を一例にして説明する。

【0148】これを前提にして、まず、図19に示すフローチャートのステップC1で制御手段11はワンタッチキー91が押下されるのを待つ。ユーザによってワンタッチキー91が押下された場合には、ステップC2に移行して原稿サイズが現在検知中か否かが判別される。原稿サイズを検知中の場合には、図1に示した読取手段12による原稿読取りが既に行われ、手動発呼モードが実行されていることが想定されるので、図20に示すフローチャートのステップC11に移行する。

【0149】また、ステップC2で原稿サイズ検知中ではない場合には、ステップC3に移行してスタートキー9

11が押下されたかが制御手段11によって検出される。スタートキー911が押下された場合には、自動発呼モードではなく手動発呼モードを実行しているので、ステップC11に移行する。従って、ステップC3でスタートキー911が押下されない場合には、ステップC4に移行して原稿読み取り中に原稿用紙がジャム(給紙ミス)ったか否かが判別される。原稿用紙がジャムった場合には、自動発呼モードでなく手動発呼モードを実行しているので、ステップC11に移行する。

【0150】そして、ステップC4で原稿用紙がジャムっていない場合には、ステップC5に移行して不揮発メモリ31にワンタッチ・プログラムが登録されているか否かが制御手段11によって検出される。このワンタッチ・プログラムが不揮発メモリ31に登録されていない場合には、自動発呼モードを実行できないので、ステップC11に移行する。その不揮発メモリ31にワンタッチ・プログラムが登録されている場合には、ステップC6に移行して不揮発メモリ31からバッファメモリ32に該当プログラムNOデータを読み出す。その後、ステップC7に移行して複数宛先の「設定」がなされているか否かが制御手段11によって判別される。

【0151】ステップC7で複数宛先の「設定」がなされていると判別された場合には、ステップC8に移行して相手先の通信端末のダイヤルが設定され、その後、ステップC9に移行してワンタッチタイマが制御手段11によって起動される。このタイマセットは一定時間経過後に原稿画像を相手先の通信端末に自動送信するためである。

【0152】そして、ステップC10でその所定の時間をタイムアップしたか否かが制御手段11によって監視される。この所定時間がタイムアップした場合には、ステップC14に移行してFAX送信処理を実行する。このとき、相手先の通信端末に対して通信回線を介して所定の通信手順で通信手段14によって原稿画像が自動送信される。これにより、通常のワンタッチキー91による自動発呼モードを実行することができる。

【0153】ところで、ステップC2で原稿サイズ検知中の場合、ステップC3でスタートキー911が既に押下された場合、ステップC4で原稿がジャムった場合、ステップC5でワンタッチ・プログラムが登録されていない場合、及び、ステップC7でワンタッチ・プログラム登録項目に複数宛先の「設定」がなされていない場合には、自動発呼モードを中止して手動発呼モードを実行すべく、ステップC11に移行して、テンキー92又は宛先関連ボタンの入力待つ。

【0154】このステップC11でテンキー92又は宛先ボタンによって相手先の通信端末の宛先が入力された場合には、ステップC12に移行して表示手段21に複数の宛先を表示する。ステップC11ではバッファメモリ32の宛先を含む通信プログラムが制御手段11によ

って不揮発メモリ31の通信管理ファイルに追加される。以後、この対応相手先の登録情報を利用するためである。

【0155】その後、ステップC13に移行してスタートキー911が押下されるのを待つ。ユーザによってスタートキー911が押下された場合には、ステップC14に移行してFAX送信処理を実行する。このとき、相手先の通信端末に対して通信回線を介して所定の通信手順で通信手段14により原稿画像が自動送信される。

【0156】このように本実施の形態では、図19に示したフローチャートのステップC1でワンタッチキー91による自動発呼モードを実行する場合であって、そのステップC7でワンタッチ・プログラム登録項目に未設定項目が発見された場合に、自動発呼モードを中止してステップC11～ステップC14の手動発呼モードを実行することができるので、その未設定項目を登録し、予め不揮発メモリ32に登録されていた設定項目と、新たに登録した設定項目とを合成した通信プログラムに基づいてステップC14でFAX送信処理を実行することができる。

【0157】従って、ワンタッチキー91による自動発呼モードを実行している途中から、その自動発呼モードを中止して手動発呼モードを実行することができるので、ワンタッチキー91の利用範囲及びその利用価値を大幅に拡大かつ向上させることができる。

【0158】(5) 複合機100の第3の動作例

図21及び図22は複合機100のワンタッチキー91による他の複数宛先送信時の動作例(その1、2)を示すフローチャートである。

【0159】この例では、ワンタッチキー91による自動発呼モードを実行する場合であって、図21に示すフローチャートのステップD1～ステップD9、ステップD12～D16で通常のワンタッチキー91による自動発呼モードを実行する。そして、例えば、ワンタッチ・プログラム登録項目に複数「宛先名」は登録されているが、その相手先の電話番号が未登録となっている場合には、そのステップD1～ステップD8で自動発呼モードを途中まで実行し、ステップD9で自動発呼モードを中止して一旦、手動発呼モードに移行し、その後、ステップD10で手動発呼モードによるダイヤル設定を行い、その後、再度、自動発呼モードに復帰する場合であって、タイムアップが正常に行われた場合及びそれが正常に行われなかった場合を想定する。この例では、タイムアップが異常終了した場合には再び手動発呼モードに移行するようになされる。

【0160】これを前提にして、まず、図21に示すフローチャートのステップD1に移行して、テンキー92又は宛先関連ボタンの入力を待つ。このステップD1でテンキー92又は宛先ボタンによって相手先の通信端末の「宛先」が入力された場合には、ステップD2に移行

して表示手段21に複数の「宛先」を表示する。ステップD1ではバッファメモリ32の宛先を含む通信プログラムが制御手段11によって不揮発メモリ31の通信管理ファイルに追加される。以後、この対応相手先の登録情報を利用するためである。

【0161】その後、ステップD3で制御手段11はワンタッチキー91が押下されるのを待つ。ユーザによってワンタッチキー91が押下された場合には、ステップD4に移行して原稿サイズが現在検知中か否かが判別される。原稿サイズを検知中の場合には、図1に示した読取手段12による原稿読取りが既に行われ、手動発呼モードが実行されていることが想定されるので、図22に示すフローチャートのステップD15に移行する。自動発呼モードを中止して手動発呼モードによる送信スタートを行うためである。

【0162】また、ステップD4で原稿サイズ検知中ではない場合には、ステップD5に移行してスタートキー911が押下されたか否かが制御手段11によって検出される。スタートキー911が押下された場合には、自動発呼モードでは無く手動発呼モードを実行しているので、ステップD15に移行する。従って、ステップD5でスタートキー911が押下されない場合には、ステップD6に移行して原稿読み取り中に原稿用紙がジャム(給紙ミス)ったか否かが判別される。原稿用紙がジャムった場合には、自動発呼モードでなく手動発呼モードを実行しているので、ステップD15に移行する。

【0163】そして、ステップD6で原稿用紙がジャムっていない場合には、ステップD7に移行して不揮発メモリ31にワンタッチ・プログラムが登録されているか否かが制御手段11によって検出される。このワンタッチ・プログラムが不揮発メモリ31に登録されていない場合には、自動発呼モードを実行できないので、ステップD15に移行する。その不揮発メモリ31にワンタッチ・プログラムが登録されている場合には、ステップD8に移行して不揮発メモリ31からバッファメモリ32に該当プログラムNOデータを読み出す。

【0164】その後、ステップD9で該当プログラムNOデータから相手先の電話番号が入力(宛先入力)されたか否かを判別する。このデータから宛先入力された場合にはステップD12に移行してワンタッチタイマが制御手段11によって起動される。このタイマセットは一定時間経過後に原稿画像を相手先の通信端末に自動送信するためである。

【0165】そして、ステップD13でその所定時間が正常に経過したか否かが制御手段11によって監視される。この所定時間が正常にタイムアップした場合には、ステップD14に移行してスタート処理前のチェックが行われる。この際のチェックは相手先の通信端末に対してFAX送信処理に必要な通信プログラムが整っているか否かの確認であり、その通信プログラムが整っている

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場合にはステップD16に移行してFAX送信処理を実行する。このとき、相手先の通信端末に対して通信回線を介して所定の通信手順で通信手段14によって原稿画像が自動送信される。これにより、通常のワンタッチキー91による自動発呼モードを実行することができる。

【0166】ところで、ステップD9で該当プログラムNOデータから相手先の電話番号が入力（宛先入力）されなかった場合には、自動発呼モードを一時中断して、手動発呼モードに遷移すべく、ステップD10に移行して相手先の電話番号がワンタッチ・プログラム登録に設定されるか否かが制御手段11によって判別される。ここで、ユーザによりステップD10でワンタッチ・プログラム登録に相手先の電話番号が設定される。この場合には、ステップD11に移行して相手先の通信端末のダイヤルが設定され、その後、自動発呼モードに復帰してステップD12でワンタッチタイマが制御手段11によって起動される。

【0167】そして、ステップD13でその所定の時間をタイムアップしたか否かが制御手段11によって監視される。この所定時間がタイムアップした場合には、ステップD14に移行してスタート処理前のチェックが行われる。この際のチェックは前述した通りであり、FAX送信処理に必要な通信プログラムが整っている場合にはステップD16に移行してFAX送信処理を実行する。このとき、相手先の通信端末に対して通信回線を介して所定の通信手順で通信手段14によって原稿画像が自動送信される。これにより、ワンタッチキー91を押下した後に、通信プログラムから宛先入力されなかった場合であっても、自動発呼モードを実行することができる。

【0168】なお、ステップD4で原稿サイズ検知中の場合、ステップD5でスタートキー911が既に押下された場合、ステップD6で原稿がジャムった場合、ステップD7でワンタッチ・プログラムが登録されていない場合、ステップD10でワンタッチ・プログラム登録項目に相手先の電話番号が「設定」がなされていない場合、ステップD13でタイムアップが異常終了した場合、及び、ステップD14でスタート処理前のチェックでエラーが生じた場合には、自動発呼モードを中止して手動発呼モードを実行すべく、ステップD15に移行してスタートキー911が押下されるのを待つ。

【0169】ここで、ユーザによってスタートキー911が押下された場合には、ステップD16に移行してFAX送信処理を実行する。このとき、相手先の通信端末に対して通信回線を介して所定の通信手順で通信手段14によって原稿画像が自動送信される。

【0170】このように本実施の形態では、図21に示したフローチャートのステップD3でワンタッチキー91による自動発呼モードを実行する場合であって、そのステップD9でワンタッチ・プログラム登録項目に相手

先の電話番号の未登録が発見された場合に、自動発呼モードを一旦、中止してそのステップD10で手動発呼モードを実行することができるので、その電話番号を新たに登録し、予め不揮発メモリ32に登録されていた複数の相手先と、新たに登録した電話番号とを合成した通信プログラムに基づいてステップD16でFAX送信処理を実行することができる。

【0171】従って、ワンタッチキー91による自動発呼モードを実行している途中で、一旦、手動発呼モードに移行し、再度、自動発呼モードに復帰してFAX送信処理を実行することができるので、ワンタッチキー91の利用範囲及びその利用価値を大幅に拡大かつ向上させることができる。

【0172】この実施形態では複合機100に関して、複写機能及びファクシミリ機能を備えた複合機100について説明したが、これに限られることはなく、単に通信プログラムに基づいて送信可能なファクシミリ装置のみの場合や、複写機能、ファクシミリ機能及びプリンタ機能の3つの機能を備えた複合機であっても、同様な効果が得られる。

【0173】

【発明の効果】以上説明したように、本発明の通信装置によれば、ワンタッチキーが押下された際に、登録手段に登録された相手先を含む通信プログラムによって、自動発呼モードを実行しないと判別した場合には、自動発呼モードを中止して手動発呼モードを実行する制御手段が設けられるものである。

【0174】この構成によって、予め登録手段に登録された相手先を含む通信プログラムに相手先番号や、グループ番号を追加したり、その通信プログラムの内容を変更したりすることができる。従って、予め登録手段に登録されていた設定項目と、新たに登録した設定項目とを合成した通信プログラムに基づいて通信処理を実行することができるので、ワンタッチキーの利用範囲及びその利用価値を大幅に拡大かつ向上させることができる。

【0175】本発明の通信方法によれば、ワンタッチキーが押下された際に、相手先を含む通信プログラムによって、自動発呼モードを実行しないと判別された場合には、自動発呼モードを中止して手動発呼モードを実行するようにしたものである。

【0176】この構成によって、既に登録されている相手先を含む通信プログラムに相手先番号や、グループ番号を追加したり、その通信プログラムの内容を変更したりすることができる。従って、予め登録されていた設定項目と、新たに登録した設定項目とを合成した通信プログラムに基づいて通信処理を実行することができるので、ワンタッチキーの利用範囲及びその利用価値を大幅に拡大かつ向上させることができる。

【0177】この発明は、相手先を含む通信プログラムに基づいて送信可能なファクシミリ装置や、このような

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ファクシミリ機能、複写機能及びプリンタ機能を備えた複合機などに適用して極めて好適である。

【図面の簡単な説明】

【図1】本発明の各実施形態としての通信装置を応用した複合機100の構成例を示すブロック図である。

【図2】その複合機100の操作パネル90の構成例を示す上面図である。

【図3】そのファクシミリ機能選択時の基本待機画面（原稿設定）P0の表示例を示すイメージ図である。

【図4】その宛先表待機画面P1の表示例を示すイメージ図である。

【図5】その宛先登録画面P2の表示例を示すイメージ図及びその状態遷移図である。

【図6】その短縮ダイヤル追加／編集画面P3の表示例を示すイメージ図及びその状態遷移図である。

【図7】その短縮ダイヤル一覧表示画面P4の表示例を示すイメージ図及びその状態遷移図である。

【図8】短縮宛先名前検索画面P5の表示例を示すイメージ図である。

【図9】そのグループ選択画面P6の表示例を示すイメージ図及びその状態遷移図である。

【図10】そのグループ宛先登録画面P7及びそのグループ名前登録画面P8の表示例を示すイメージ図である。

【図11】そのグループ宛先確認画面P9の表示例を示すイメージ図及びその状態遷移図である。

【図12】他の実施形態としての第1の複合機を応用した複合機100のワンタッチ・プログラム登録画面の表示遷移例を示すイメージ図である。

【図13】そのプログラム登録／編集画面P11及びその下位階層のプログラム登録／編集画面P12の表示例を示すイメージ図である。

【図14】その他の下位階層のプログラム登録／編集画面P13の表示例を示すイメージ図及びその状態遷移図である。

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*【図15】複合機100による通信プログラムの登録例（その1）を示すフローチャートである。

【図16】複合機100による通信プログラムの登録例（その2）を示すフローチャートである。

【図17】複合機100による通信プログラムの登録例（その3）を示すフローチャートである。

【図18】複合機100のFAX送信時のキー入力に係る動作例を示すフローチャートである。

【図19】そのワンタッチキー91による複数宛先送信時の動作例（その1）を示すフローチャートである。

【図20】そのワンタッチキー91による複数宛先送信時の動作例（その2）を示すフローチャートである。

【図21】そのワンタッチキー91による複数宛先送信時の他の動作例（その1）を示すフローチャートである。

【図22】そのワンタッチキー91による複数宛先送信時の他の動作例（その2）を示すフローチャートである。

【図23】従来方式の通信装置10の操作パネル1の構成例を示す上面図である。

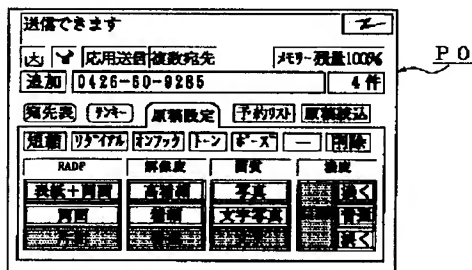
【図24】その液晶表示器2の表示例を示すイメージ図である。

【符号の説明】

11・・・制御手段、12・・・原稿読取手段、13・・・画像メモリ（記憶手段）、14・・・通信手段、15・・・復号化手段、16・・・符号化手段、17・・・画像形成手段、18・・・発呼手段、19・・・操作手段、21・・・表示手段、23・・・モードチェンジャー、31・・・不揮発メモリ（登録手段）、32・・・バッファメモリ、33・・・自動開始手段、34・・・自動開始手段、35・・・セレクト（選択手段）、90・・・操作パネル、91・・・ワンタッチキー、92・・・テンキー、92'・・・短縮キー、100・・・複合機

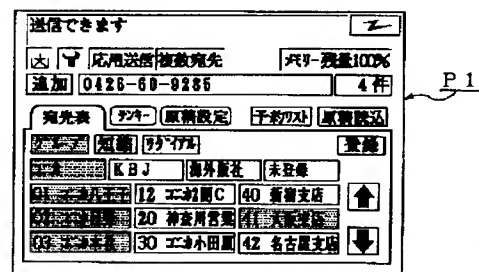
【図3】

ファクシミリ機能選択時の基本待機画面
（原稿設定）P0の表示例



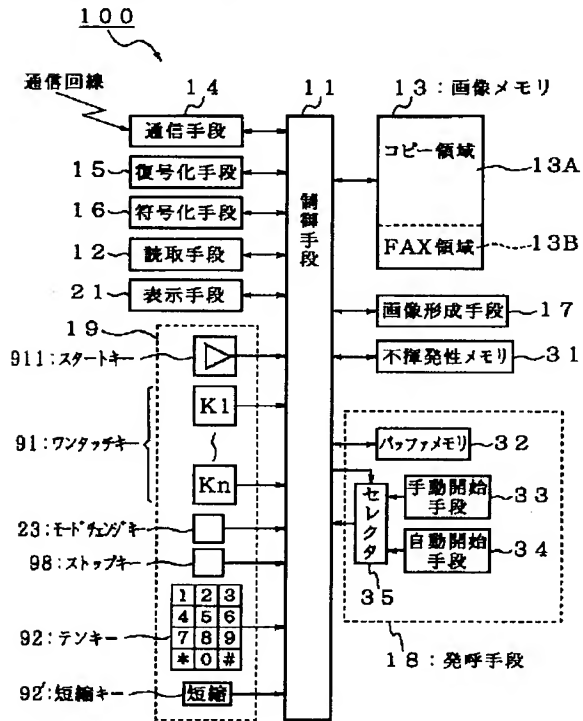
【図4】

宛先表待機画面P1の表示例



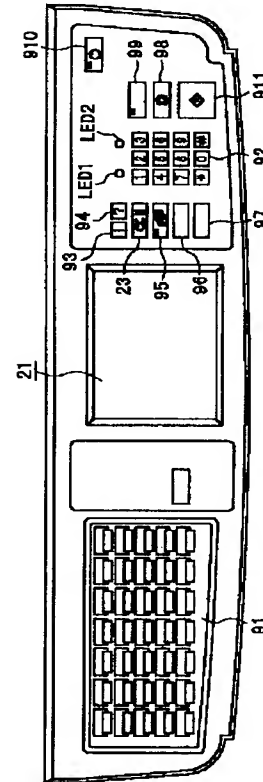
【図1】

各実施形態としての通信装置を応用した
複合機100の構成例



【図2】

複合機100の操作パネル90の構成例



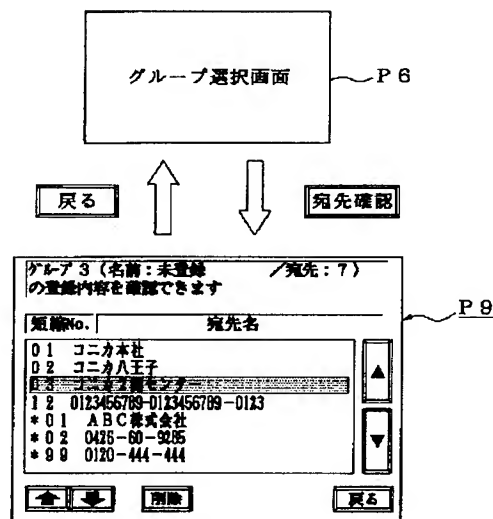
【図8】

短縮宛先名前検索画面P5の表示例

短縮No.	宛先名	電話番号
01	コニカ本社	03-3346-1111
02	コニカ八王子	0426-80-9205
03	コニカ横浜	045-657-0123
04	コニカ東京	03-3346-1111
05	コニカ大阪	06-6644-4444
06	コニカ名古屋	052-734-1234
07	コニカ福岡	092-444-4444
08	コニカ札幌	011-234-5678
09	コニカ仙台	022-234-5678
10	コニカ新潟	025-234-5678
11	コニカ金沢	076-234-5678
12	コニカ富山	077-234-5678
13	コニカ石川	077-234-5678
14	コニカ福井	077-234-5678
15	コニカ山梨	0426-80-9205
16	コニカ長野	0265-234-5678
17	コニカ岐阜	057-234-5678
18	コニカ静岡	054-234-5678
19	コニカ愛知	052-734-1234
20	コニカ三重	059-234-5678
21	コニカ滋賀	077-234-5678
22	コニカ京都	075-234-5678
23	コニカ大阪	06-6644-4444
24	コニカ兵庫	078-234-5678
25	コニカ奈良	074-234-5678
26	コニカ和歌山	073-234-5678
27	コニカ徳島	087-234-5678
28	コニカ高松	087-234-5678
29	コニカ香川	087-234-5678
30	コニカ岡山	086-234-5678
31	コニカ広島	082-234-5678
32	コニカ山口	083-234-5678
33	コニカ福岡	092-444-4444
34	コニカ佐賀	092-444-4444
35	コニカ大分	097-234-5678
36	コニカ熊本	096-234-5678
37	コニカ鹿児島	099-234-5678
38	コニカ沖縄	098-234-5678

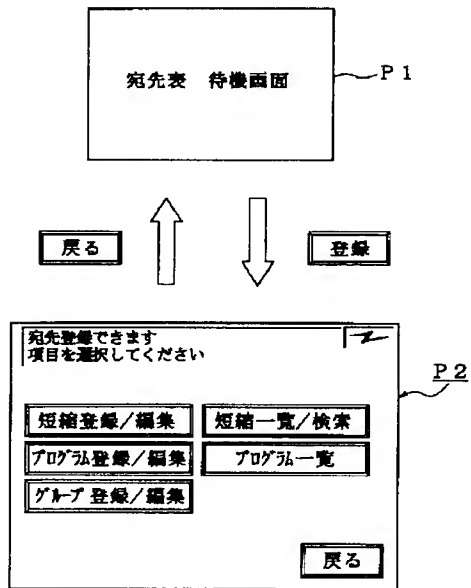
【図11】

グループ宛先確認画面P9の表示例



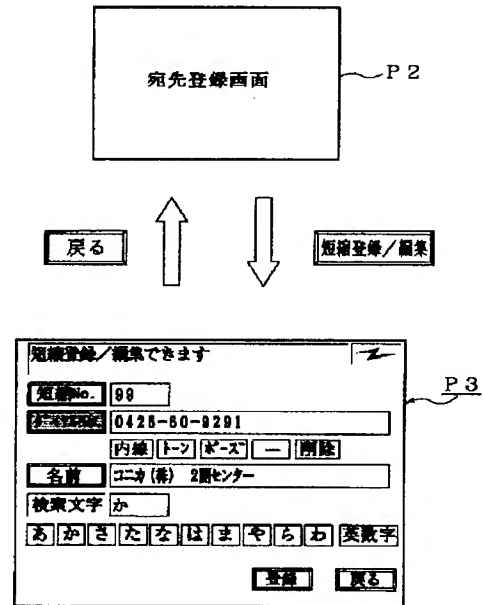
【図5】

宛先登録画面P2の表示例



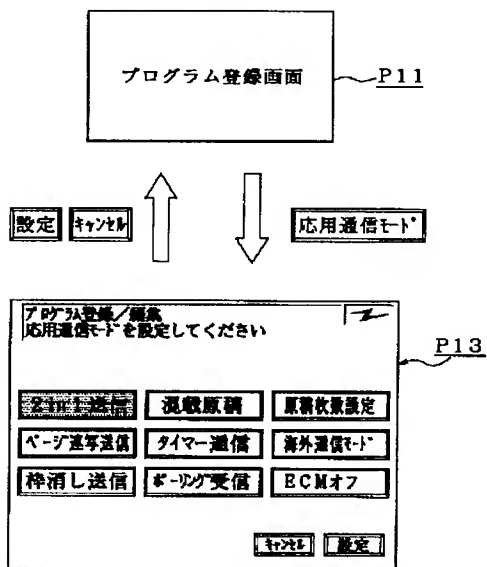
【図6】

短縮ダイヤル追加/編集画面P3の表示例



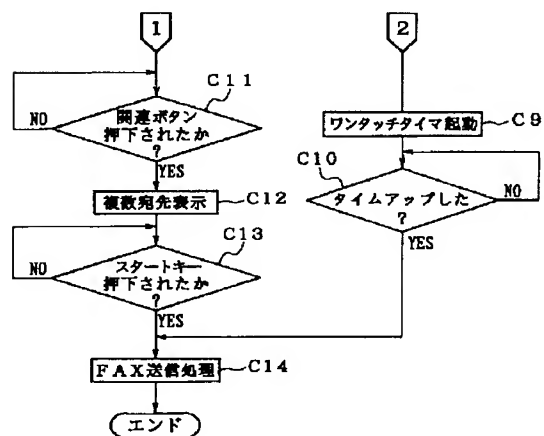
【図14】

プログラム登録/編集画面P11の表示例及び他の遷移例



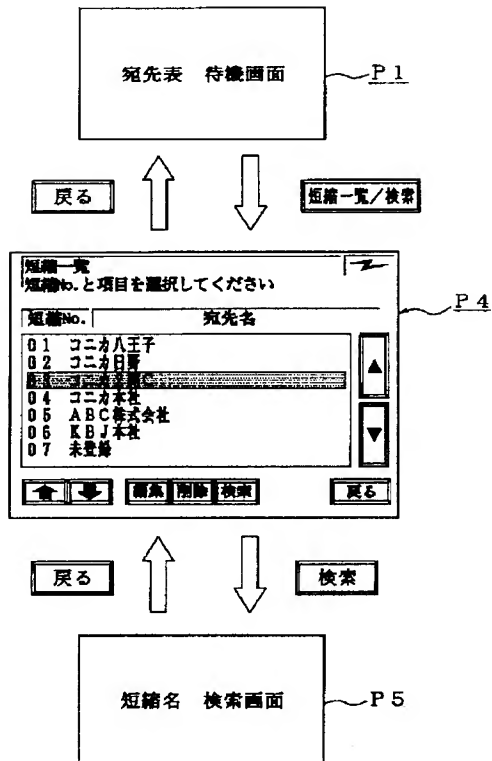
【図20】

ワンタッチキー91による複数宛先送信時の動作例(その2)



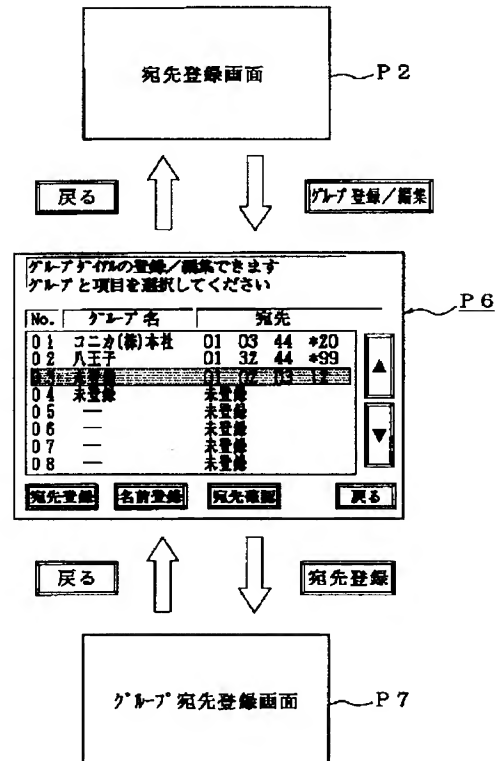
【図7】

短縮ダイヤル一覧表示画面P4の表示例



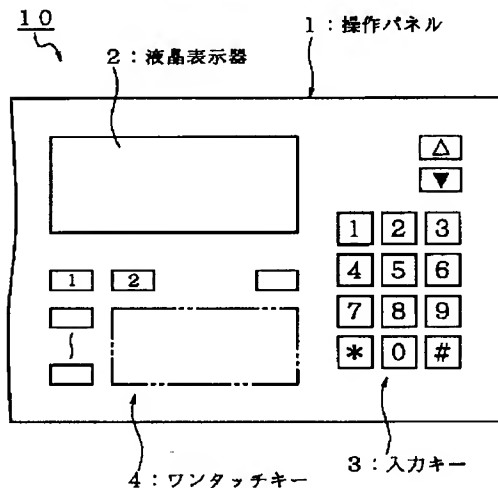
【図9】

グループ選択画面P6の表示例



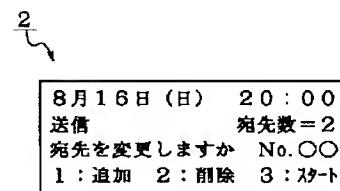
【図23】

従来方式の通信装置10の操作パネルの構成例



【図24】

液晶表示器2の表示例



【图 12】

ワンタッチ・プログラム登録画面の表示遷移例

プレーヤー 3 (名前: 未登録) / 宛先: 4)
 に登録する宛先を選択してください

No. 順表示 名前検索

00 ~ 50 ~ *00 ~ *50 ~

01 〇〇〇〇〇〇	02 〇〇〇〇〇〇	03 〇〇〇〇〇〇
04 ABC 音楽所	05 DEF 音楽所	06 GHI 音楽所
07 未登録	08 MNO 音楽所	09 PQR 音楽所
10 045-789-12	11 VWX 音楽所	12 〇〇〇〇〇〇

戻る 戻る

No. 順表示 ↑ ↓ 名前検索

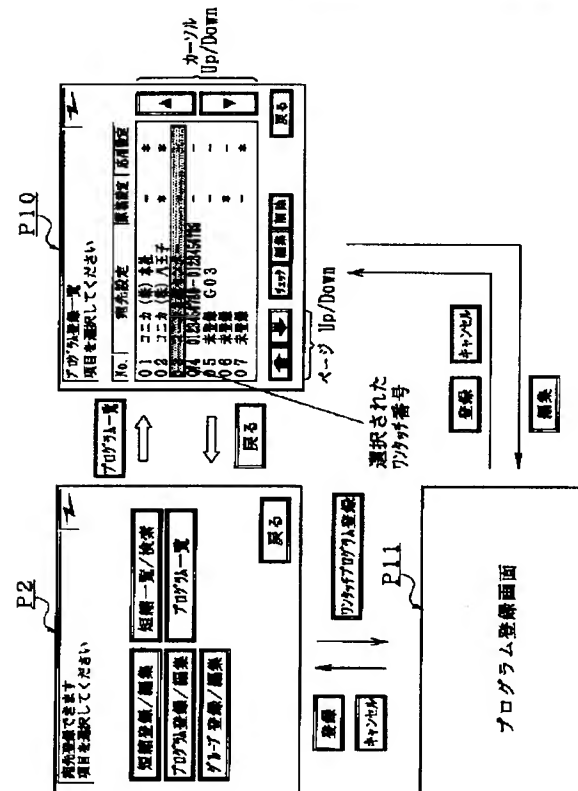
プレーヤー 3 (名前: 未登録) / 宛先: 4)
 に登録する宛先を選択してください

No. 順表示 名前検索

あ さ た な は ま や ら お 英数字

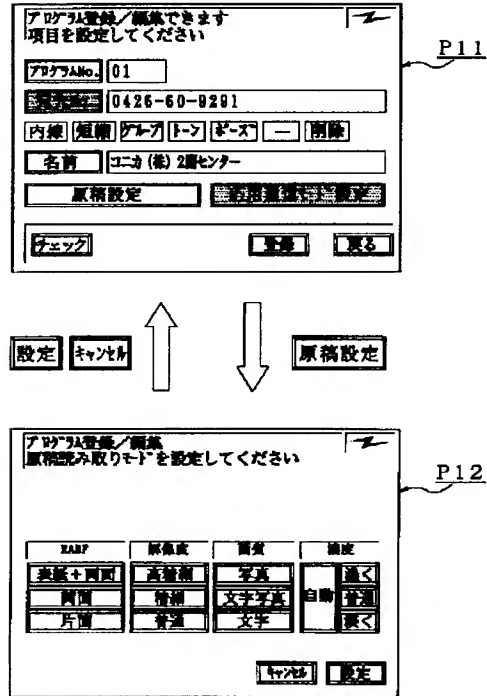
01 〇〇〇〇〇〇	02 〇〇〇〇〇〇	03 〇〇〇〇〇〇
04 〇〇〇〇〇〇	20 株式会社	30 〇〇〇〇〇〇
50 関西支社	89 広島	99 広島工場
*11 鹿児島	*33 ㈱ABC	

戻る 戻る



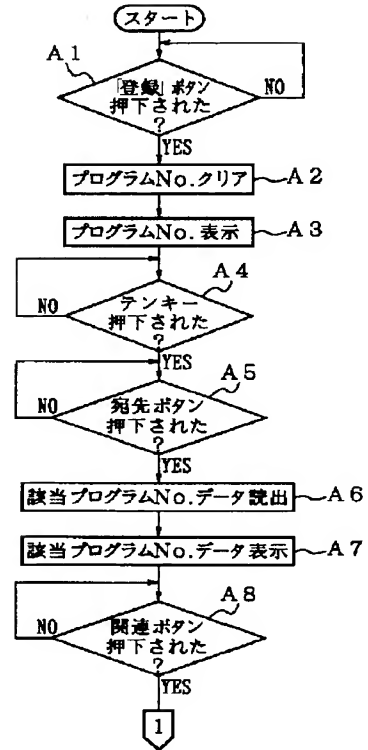
【図13】

プログラム登録／編集画面P11の表示例
及びその遷移例



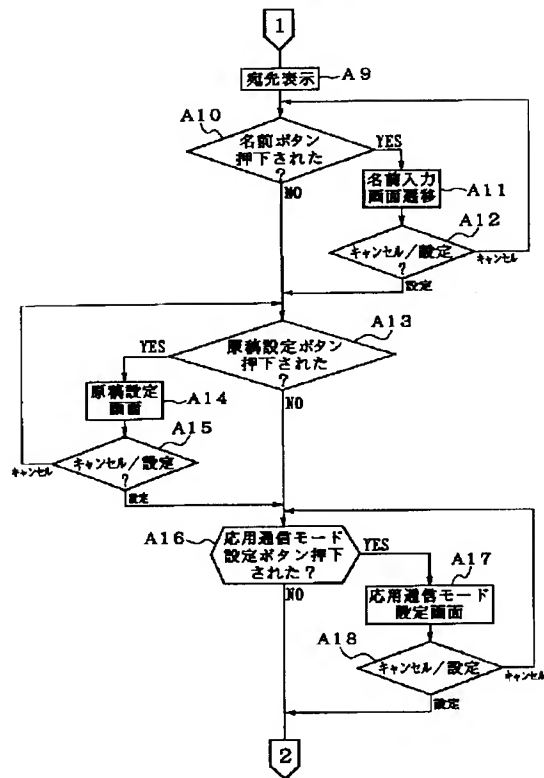
【図15】

通信プログラムの登録例 (その1)



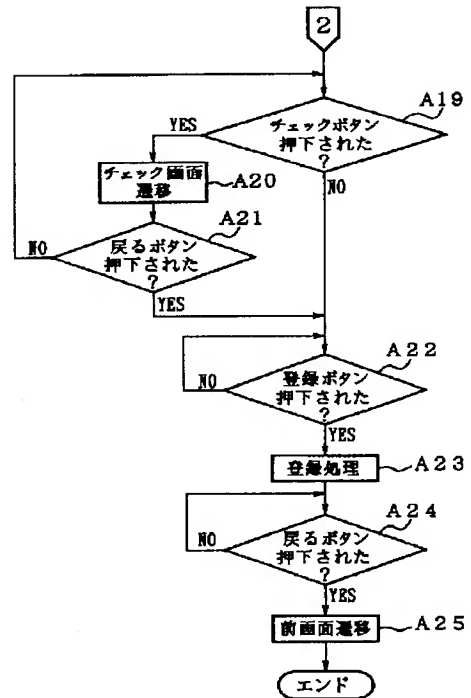
【図16】

通信プログラムの登録例（その2）



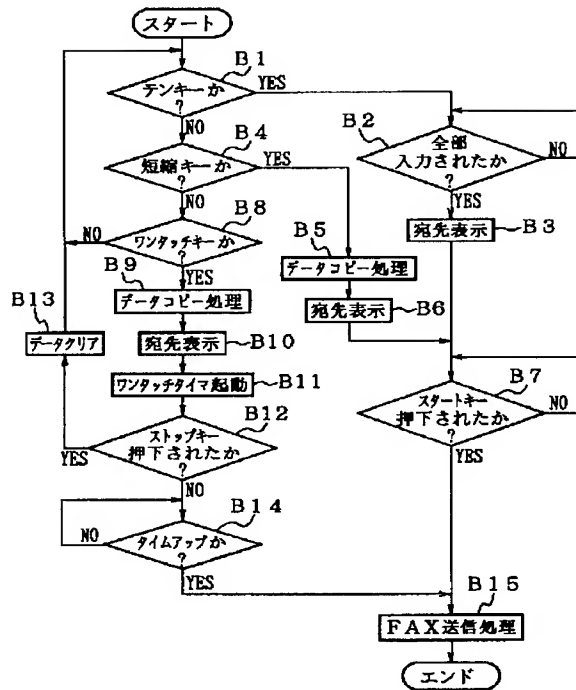
【図17】

通信プログラムの登録例（その3）



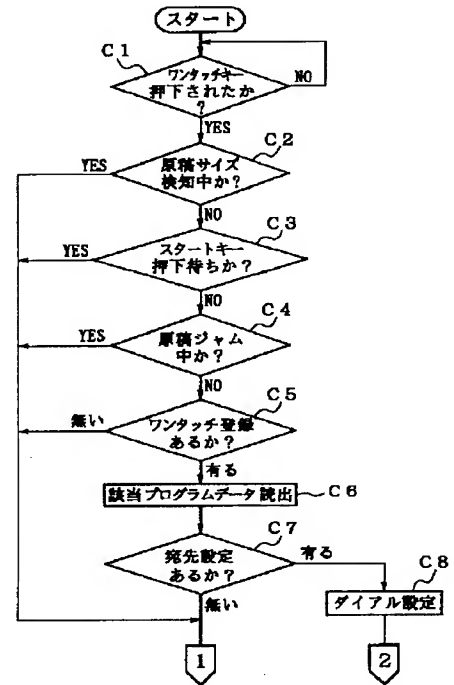
【図18】

複合機100のFAX送信時の
キー入力に係る動作例



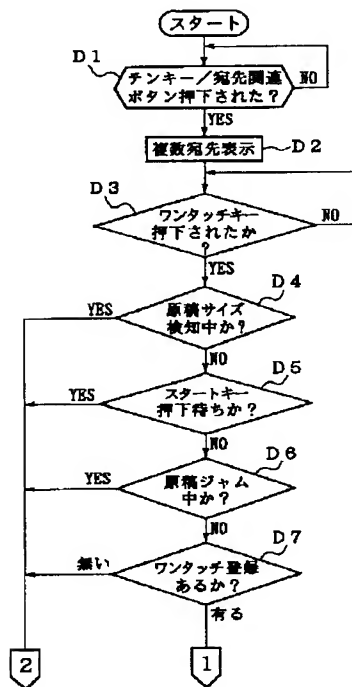
【図19】

ワンタッチキー91による複数宛先
送信時の動作例 (その1)



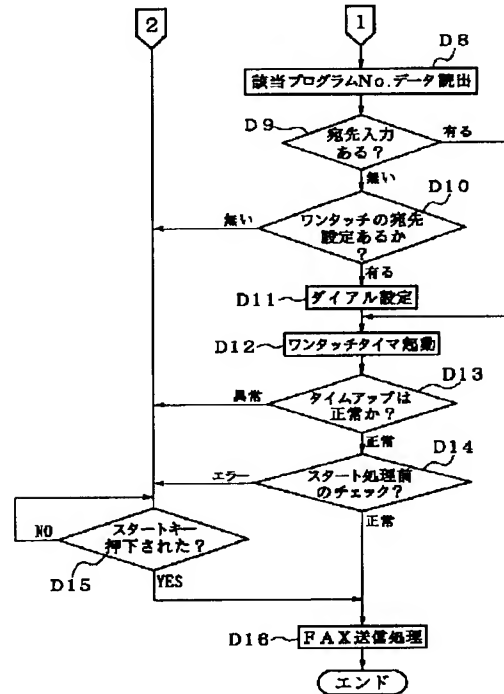
【図21】

ワンタッチキー91による複数宛先
送信時の他の動作例（その1）



【図22】

ワンタッチキー91による複数宛先
送信時の他の動作例（その2）



フロントページの続き

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Fターム(参考) 5C075 BA09 BA13 CD07 CD18 FF90
5C076 AA11 AA18 BA04 BA09 CA02
5K036 AA15 DD05 DD12 JJ07 JJ13
KK07
5K101 KK01 NN18 RR12 RR13